“It’s a Game of Give and Take”:

Dyadic Analyses of Long-Term Couples’ Mutual Social Support

Thesis (cumulative thesis)

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Les relations avec les êtres nous aident toujours à continuer parce qu'elles supposent toujours des développements, un avenir - et qu'aussi nous vivons comme si notre seule tâche était d'avoir précisément des relations avec les êtres.

Albert Camus

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Abstract

The present thesis focuses on the mechanisms of dyadic coping, commitment, and relationship satisfaction in intimate relationships, and on the interplay of these relationship variables in mainly older couples' relationships.

The first study examines the association between older spousal dyads' coping behavior and their relationship satisfaction. N = 132 couples (*M* age = 68 years) were analyzed, and it was found that their dyadic coping strategies – a prime indicator of functional adaptation to daily stress in marital context – were significantly linked to relationship satisfaction. The findings suggest that partners' subjective perception of spouses' supportive behavior was more strongly linked to the partners' relationship satisfaction than the spouses' self-reported support. Furthermore, individual support perception was more important for marital satisfaction than coping-congruency, which indicates that perceived dyadic coping behavior plays a major role influencing intimate partners' relationship satisfaction. Overall, older adults' dyadic coping may serve as an effective tool to stabilize relationship satisfaction when facing the challenges of older age and a long-term marriage.

The main aim of the second study was to examine the association between intra- and interpersonal discrepancies of dyadic support and relationship satisfaction in three age groups of intimate couples, ranging from 20-35, from 40-55, and from 65-80. It was expected that the perception of an intrapersonal balance between support provision and receipt – as computed with the equity index – would show stronger associations with relationship satisfaction than would interpersonal equity – as computed with the reciprocity index. Structural equation modeling with the actor-partner-interdependence model confirmed our hypotheses, revealing significant associations between equity indices and relationship satisfaction for both partners.

Multigroup analysis revealed that the modeled associations can be found in all three age groups.

Finally, the associations between older couples' emotional and cognitive relationship commitment, and relationship satisfaction, as well as dyadic coping, was examined with data from 201 heterosexual intimate couples in long-term relationships. We expected relationship satisfaction to mediate the association between relational commitment and common dyadic coping on a dyadic level. This hypothesis was supported by measuring dyadic effects with the common fate mediation model. Furthermore, additional structural equation modeling with the actor-partner-interdependence-mediation model revealed that women's relationship satisfaction was mainly responsible for the mediating effect between both intimate partners' commitment and common dyadic coping.

An overall introductory part on the main constructs of this thesis, as well as a summarizing discussion, and an outlook on prospective research approaches build the framework and embed the studies into the thematic context of this thesis.

Zusammenfassung

Diese Dissertation fokussiert auf die Mechanismen von dyadischem Coping, Commitment und Beziehungszufriedenheit und dem Zusammenspiel dieser Variablen in den Beziehungen vorwiegend älterer Paare.

Die erste Studie untersucht den Zusammenhang zwischen dem Copingverhalten älterer ehelicher Dyaden und ihrer Beziehungszufriedenheit. Es wurden N = 132 Paare (Durchschnittliches Alter = 68) untersucht, und es wurde gefunden, dass ihre dyadischen Copingstrategien – ein Hauptindikator für funktionelle Adaptation an alltäglichen Stress im ehelichen Kontext – signifikant mit der Beziehungszufriedenheit zusammenhing. Diese Resultate deuten darauf hin, dass die subjektiv wahrgenommenen Copingbemühungen des Partners stärker mit der eigenen Beziehungszufriedenheit zusammenhängen als die eigenen Copingbemühungen. Zudem war die individuelle Wahrnehmung von Unterstützung wichtiger für die Beziehungszufriedenheit als die tatsächliche Kongruenz der Unterstützungs-bemühungen von Mann und Frau. Das erfolgreiche dyadische Coping älterer Paare könnte somit, gerade in Zeiten altersbedingter Herausforderungen, eine effektive Hilfe zur Stabilisierung von Beziehungszufriedenheit in Langzeitehen darstellen.

Die zweite Studie untersuchte den Zusammenhang zwischen intra- und interpersonellen Diskrepanzen dyadischen Copings und Beziehungszufriedenheit in drei Altersgruppen intimer Paare (20-35 Jahre, 40-55 Jahre, und 60-80 Jahre). Es wurde erwartet, dass die Wahrnehmung der intrapersonellen Balance zwischen Unterstützung geben und nehmen (in dieser Studie durch den Equity Index erhoben) – stärkere Zusammenhänge offenbaren würde als die interpersonelle Reziprozität (durch Reziprozitätsindex erhoben.). Strukturgleichungsmodellierungen mit dem Akteur-Partner-Interdependenz-Modell konnten die Hypothese bestätigen, dass der Equity Index signifikante Zusammenhänge mit der

Beziehungszufriedenheit beider Partner ergab, und Multigroup Analysen zeigten auf, dass die modellierten Beziehungen in allen drei Altersgruppen bestätigt werden konnten.

Schliesslich wurden in der dritten Studie die Zusammenhänge zwischen dem emotionalen und kognitiven Commitment, der Beziehungszufriedenheit und dem dyadischem Coping an 201 heterosexuellen älteren Paaren in Langzeitbeziehungen untersucht. Es wurde erwartet, dass Beziehungszufriedenheit den Zusammenhang zwischen Commitment und gemeinsamem dyadischen Coping auf dyadischer Ebene mediieren würde. Diese Hypothese konnte durch die Analyse mit dem Common Fate Modell bestätigt werden, welches die dyadischen Effekte misst. Zudem konnte ein zusätzliches Strukturgleichungsmodell auf Basis des Akteur-Partner-Interdependenz-Mediationsmodell aufzeigen, dass tatsächlich die Beziehungszufriedenheit der Frauen für den mediierenden Effekt zwischen Commitment und den Beziehungszufriedenheiten beider Partner verantwortlich war.

Eine allgemeine Einführung der Hauptkonstrukte dieser Dissertation sowie eine zusammenfassende Diskussion und der Ausblick auf zukünftige Forschungsansätze bilden den Rahmen für die drei Studien und betten sie in den thematischen Kontext der Hauptfragestellung ein.

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1 Introduction

With their vulnerability-stress-adaptation model, Karney and Bradbury (1995) postulate that a relationship is subject to constant adaptation processes and appraisals of relationship quality in function of intimate partners' interactions and exchanges. At the same time, intimate partners' judgements of their marital quality, based on previous common experiences with adaptive processes in stressful and challenging times, influence further inter-dyadic interaction behavior. The couple's ability to adapt and to cope with obstacles as they occur over the shared lifespan can exercise decisive influence on the way they perceive their relationship success. Joint adaptation and coping processes bear the potential to level off encountered difficulties and transitions: Relationships can thus remain stable as far as the overall quality is concerned, whereas the appraisal of specific relationship aspects can be subject to assessments and re-evaluation processes. In other words, two intimate partners might judge their relationship satisfaction positively on the long run, but the way to achieve this might be paved by persistent needs to respond to each other, by mutual agreements, by investments, and by marriage work (Helms, Crouter, & McHale, 2003) in order to compensate for challenges that intimate partners encounter throughout their lifespan as a couple.

Rausch, Barry, Hartel, and Swain, (1974) claim, that to properly assess how satisfied people are with their relationship, it is important to look at what they "do with one another" (p5.). One way to examine what people do with one another, is to look at how they support one another, and how much they give and take supportive help to and from each other. The exchange of social support in intimate relationships, or dyadic coping, is subject to specific dyadic parameters, which differentiate it from social support by friends or kin. It represents both partners' "engagement […] to assure the partners' satisfaction and well-being" (Bodenmann, 2005, p. 39), and has been found to be a powerful predictor to distinguish

between couples who were to separate and those who were to stay together (Bodenmann & Cina, 2006).

In the light of the aforesaid, the main issue of this thesis is to examine how mutual social support in intimate dyads might contribute to a satisfactory, long-term relationship. The focus is put on the constructs of dyadic coping, relationship satisfaction, and commitment in the context of dyadic analyses, and on how these constructs might interplay with each other to function as stabilizing processes in relationship outcomes. The second cornerstone of this thesis is the methodological concern: All three studies take account of the nonindependence of intimate partners' data by applying adequate methodological approaches suitable for dyads and individuals as units of analysis.

After a theoretical introduction of the aforementioned constructs in chapter 2, the main research question that underlies the three studies of this thesis is presented in chapter 3. Chapter 4 contains the studies: First, study 1 examines the association between older couples' dyadic coping and their relationship satisfaction, opposing own and perceived supportive coping behavior by partners as exogeneous variables and potential predictors of relationship satisfaction. Second, study 2 deepens this approach by looking closer at discrepancy measures of positive and negative dyadic coping and their implications for intimate partners' relationship satisfaction. The study analyses a proposed structural equation model in three different age groups. Finally, study 3 broadens the perspective of studies 1 and 2 by adding the construct of relational commitment. This study explores the role of commitment as a possible predictor for successful dyadic coping in long-term relationships and introduces relationship satisfaction as a mediating variable, with data from couples in long-term relationships.

2 Theoretical Background

2.1 Relationship Satisfaction

A satisfactory relationship is a function of relationship quality and relationship success (Glenn, 1990). Whereas the success of an intimate relationship is related to the notion of durability, i.e., the qualification of a relationship over time, the quality assesses the couples' "subjective evaluation" (Lewis & Spanier, 1979, p. 269) of their relationship at one point of time. According to Glenn, both are necessary prerequisites to adequately capture the concept of relationship satisfaction. However, besides Glenn's claim, there exist manifold perspectives on the definitional concepts (Hendrick & Hendrick, 1997), ranging from diverging opinions concerning the validities of different measures (e.g., Johnson, White, Edwards, & Booth, 1986; Schumm et al., 1986), to methodological issues and problems of social desirability, to name a few. The empirical studies presented in this thesis assess relationship satisfaction with the Relationship Assessment Scale (Hendrick, 1988). Our choice fell on this questionnaire, because according to the author, it was found to measure several relevant dimensions of romantic relationships, and to differentiate well between couples who would remain in their relationship and those who would separate. As this thesis focuses on couples whose relationship satisfaction is high, the measure seemed ideal for our purpose to identify predictors of satisfactory relationships.

With regard to predictors of relationship satisfaction, couples' interaction is one of those predictors with high significance (Feeney, Noller, & Ward, 1997). According to Lewis and Spanier's Theory of Marital Quality and Marital Stability (1979), couples' interactions represent one of the three cornerstones of relationship quality, next to satisfaction with life, and social and personal resources, and one main process of such dyadic interactions, namely

of "interactive stress management" (Lavee, 2013), is dyadic coping, described in the next section.

2.2 Dyadic Coping

Dyadic coping (Bodenmann, 1997) refers to a systematic succession of processes which occur whenever a couple encounters stress, either affecting one or both partners in the first line (direct stress), or caused by crossover (Neff & Karney 2007) from one partner onto the other (indirect stress). According to Bodenmann's stress-coping cascade model (2000, Figure 1), individuals adopt a hierarchical strategy when having to cope with stress: Following the principle of proximity and intimacy, stressful problems are first tackled by trying to cope individually. In an intact relationship, a person will refer to their intimate partner in the second instance, should individual coping efforts not have led to a satisfactory result. What follows are dyadic endeavours in the form of dyadic coping. If these joint efforts with the partner are not successful, or if the partner is not the first person to approach – in case of lacking trust or problems in the relationship – the next step is likely to be the contacting of a close person like kin or best friends. Finally, if this range of addressed sequences failed to provide the necessary comfort, the stressed person will – according to the cascade model – seek help from specialists.

Bodenmann's model is, therefore, also an accurate indicator for the actual state of a relationship. The lower the intimate partner's ranking in this sequence, the lower the quality of the positive and joint dyadic coping efforts, and presumably the higher the amount of hostile, ambivalent or even negative dyadic coping behavior (see chapter 4 of this thesis, *Empirical Studies*, for details and subforms of dyadic coping). In this context, it becomes clear that dyadic coping represents a very special form of social support: It is a mutual exchange of emotional and instrumental support provision, which, at its best, aims at buffering the effects of stress on health, cognitive performance, and well-being (Bodenmann,

2000). More than that, the functionality of dyadic coping helps to form a cognitive representation concerning the supportive availability and reliability of one's partner in times of need and can be predictive for relationship quality in the long run (Bodenmann & Cina, 2006). The studies presented in this thesis use the Dyadic Coping Inventory (DCI, Bodenmann, 2008; Gmelch, Bodenmann, Meuwly, Ledermann, Steffen-Sozinova & Striegl, 2008), or its predecessor, the Questionnaire to Assess Dyadic Coping as a Tendency (FDCT-N, Bodenmann, 2000), a self-report questionnaire assessing stress communication, positive, negative, and common dyadic coping. The structure of the DCI enables the query of women's and men's own dyadic coping efforts, and of their perceptions regarding their partner's efforts. The item scores can be used to calculate how much social support the persons give to and how much they receive from their partners, according to their subjective assessments, enabling the use of a wide range of different item combinations and subscales. In this thesis for example, study 1 uses sum scores of own and perceived positive dyadic coping, study 2 uses discrepancy scores, i.e. absolute differences between men's and women's scores of positive and negative dyadic coping, and study 3 uses items of common dyadic coping.

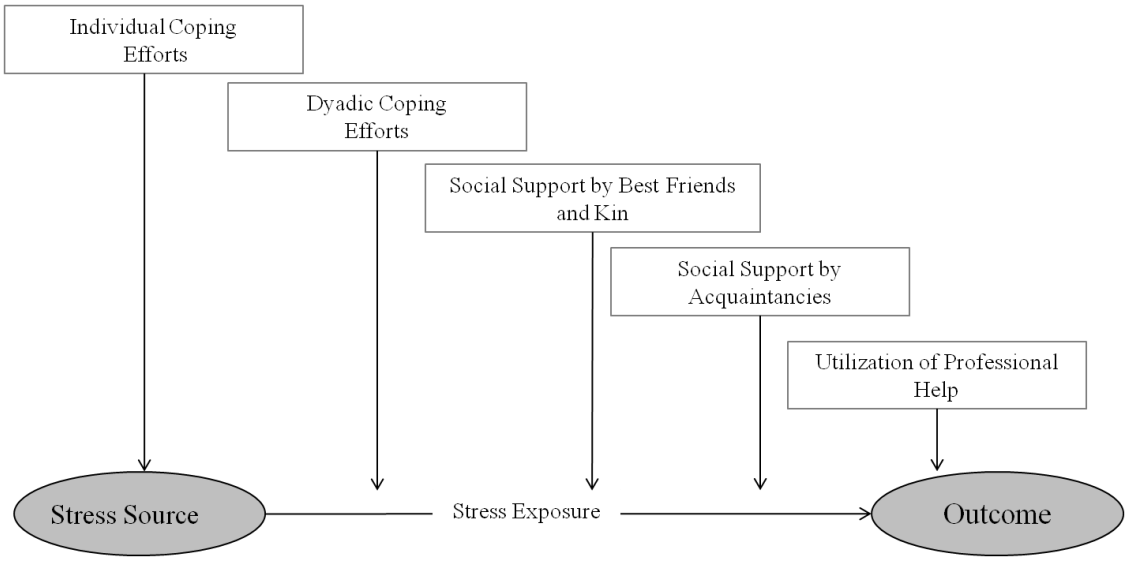

Figure 1. Cascade-model of stress and coping, based on Bodenmann (2000).

2.3 Commitment

In his Triangular Theory of Love, Sternberg (1986) names commitment to be "the long-term aspect […] of the decision/commitment component" (p. 122-123), together with intimacy, and passion, one of three vertices that constitute the triangle of love. Accordingly, the author claims that this long-term orientation of commitment – together with the decision that took place at an earlier stage of the relationship and which is more short-termed – could be the one elementary component that keeps a relationship going, even when couples encounter strains. The commitment to continue a relationship with a person is one that arises from and is being maintained by an individual's voluntary cognitive control (Sternberg, 1986) and goes hand in hand with the will to invest in one's relationship by actively using relationship maintenance strategies (Dindia, 2000; Ramirez 2008) and by avoiding retaliations (Rusbult, Bissonette, Arriaga, & Cox, 1998). Futhermore, commitment determines how intimate couples cope with interdependence dilemmas between insisting on self-interests, which might eventually lead to retaliating behavior, or giving in for the sake of the relationship: Whenever there is the will to maintain and to invest in a relationship, a person will rather withdraw from an interpersonal conflict, and prevent it from escalating, and by doing so resolve the dilemma (Rusbult, Olsen, Davies & Hannon, 2001). When this happens, the authors speak of a "prorelationship" […] transformation process" (p. 92) that occurs during a strengthened motivational orientation towards relationship-oriented goals. In their chapter on maintenance mechanisms in intimate relationships, the authors illustrate exemplarily how this transformation affects a dispute between intimate partners: The strongly committed husband will not be offended by his wife's rudeness, but instead worry why she might be in such a state. His concern will accordingly lead to prorelationship behavior, such as listening to her and supporting her in order to soothe her temper. A less committed husband would respond in a counter-attack which could jeopardize the relationship. Rusbult et al.

(2001) called for future research to identify further "relationship maintenance mechanisms" (p 96) that can be triggered by commitment. Study 3 of this thesis accepts this challenge by hypothesizing that dyadic coping might be such a mechanism.

2.4 Dyadic Analyses: Accounting for Nonindependece

An eminent feature of the methodological approach to dyads' data is the concept of nonindependence. In the context of intimate relationships, this concept refers to the fact that the scores of two voluntarily linked dyad members are more similar than one would expect with two people who are not members of the same dyad (Ackerman, Donnellan & Kashy, 2011; Kenny, Kashy & Cook, 2006). The authors describe four different reasons for increased similarity and accordingly for nonindependence in dyads: 1) An existing similarity such as in beliefs, attitudes, and values, as well in socio-economic and educational variables may have attracted people in the first line. 2) Once two people share a common life, both individuals' behavior is bound to exert a so-called *partner effect* on the other individual. 3) Whenever partners' behavior is reciprocally influencing, we speak of *mutual influence*, and finally, 4) *common fate* is responsible for nonindepence when both partners are affected by the same causes.

Furthermore, when examining dyads as units of analysis, it is important to note the different kinds of dyadic variables. We speak of *between-dyads variables* whenever both partners in a dyadic score identically on a variable. This is the case for the length of relationship or the number of common children. On the other hand, *within-dyads variables* are variables that vary within one dyad, but not between dyads. For example, one dyad member might contribute 70% to the total amount of housework whereas the other dyad member carries out 30%. Finally, *mixed variables* are variables which show variation both within and between dyads, such as age, satisfaction, level of commitment or individual coping behavior.

When dealing with dyads, it is thus essential to consider a methodological approach that includes both individuals as well as the dyad itself as units of analysis (Alferes & Kenny, 2009). A statistical procedure that takes into account all the herein discussed factors, is the Actor-Partner-Interdependence Model (APIM, Cook & Kenny, 2005), which enables the testing of an estimated path-diagramm (see Figure 3, in Chapter 4.1.3).

The studies presented this thesis all deal with dyads, and they all examine the intradyadic associations between intimate partners' independent variables and their outcome variables, using both the individuals and the dyad as such as units of analysis. Each of the three studies take into account the nonindependence of dyadic data: They all recur to the APIM as a basis for the statistical analysis of mixed variables in distinguishable dyads. Study 1 and 2 use structural equation modeling with basic APIMs comprising mixed independent variables as well as mixed outcome variables. Study 3 adresses the question of mediation between exogeneous and endogeneous variables recurring to structural equation models like the common fate model (CFM, Ledermann & Macho, 2009 – see page 65 for details) as well as to an expanded version of the APIM, namely the actor-partner interdependence model of mediation (APIMeM). In all three studies, data were arranged in the so-called *dyad-as-unit* format, a necessary precondition for this kind of methodological approach (Kenny et al., 2006).

3 Specific Research Questions

As mentioned in the introduction, the global interest in my research is to get to the bottom of the question "what makes a good and long-lasting relationship?". The present thesis contributes to answering this question by proposing that the analysis of long-term couples' mutual social support, or dyadic coping, as well as intimate partners' commitment to their relationship, and their association with relationship satisfaction, might be one possible approach to provide answers. Therefore, the analyses relate to data of older couples with mainly long relationships, or – as in study 2 – incorporates younger people in order to compare hypothesized processes of support across different age cohorts.

The three studies of this thesis are very related with regard to their constructs and they build upon each other in a logical sequence (see Figure 2). The first study explores the importance of older couples' own positive dyadic coping and perceived positive dyadic coping as predictors for relationship satisfaction in long-term marriages. It poses the question whether it is a person's assessment of their own coping behavior that matters more for relationship satisfaction, or rather how the person perceives the coping behavior of their partner. With this approach, it provides the basis for the next study. Study 2 takes an in-depth look at own and perceived support behavior by looking at discrepancy measures of both positive and negative dyadic coping, and in doing so tries to answer the question whether it is intrapersonal equity or interpersonal reciprocity in social support exchange that matters more for people's relationship satisfaction. Whereas study 1 concentrates on older couples solely, study 2 broadens the perspective by including couples of three age cohorts, in order to find evidence for identical relationship-building mechanisms of dyadic support across the age groups. In both studies, either total subscale scores, or aggregated absolute differences of subscale scores of the Dyadic Coping Inventory act as independent variables, and both studies use structural equation modeling, incorporating women's and men's scores as exogeneous

variables and their relationship satisfactions as endogeneous variables. Study 3, finally, expands the connections between dyadic coping and relationship satisfaction by introducing the concept of relational commitment. Whereas commitment is often seen as a function of relationship satisfaction, of the attractivity of alternatives, and not least of the amount of perceived investment in the relationship, the study in this thesis ventures a step towards another perspective on relational commitment: It postulates that commitment represents an important prerequisite of an intimate relationship and triggers the voluntary will to invest into a relationship. Mediated by relationship satisfaction, differences in commitment in long-term relationships seem to be related to differences in the levels of common dyadic coping expertise.

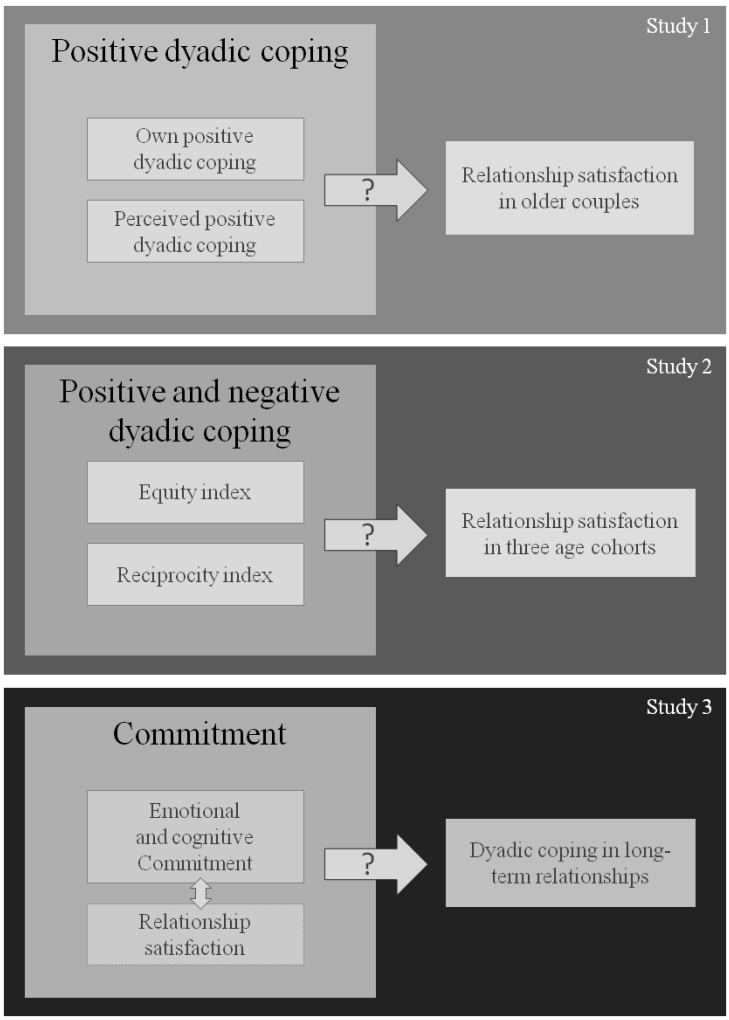

Figure 2. Graphic representation of the three empirical studies presented in this thesis.

4 Empirical Studies

4.1 Dyadic Coping and Marital Satisfaction of Older Spouses in Long-Term Marriage[1]

4.1.1 Introduction

Emotional and social dynamics of marital interaction require an ongoing adaptation to potential stress sources such as partners' moods, psychological and physical health issues, and joint problem-solving. Successful coping is a functional skill that helps to cushion the impact of these stressful situations (Bodenmann, 1995). Dyadic coping in particular characterizes intimate partners' behavior as a reaction to daily hassles such as problems encountered in the social environment, involving neighbors and family, stressful situations at the workplace (Bodenmann, 2005) and the respective partners' (supportive or non-supportive) responses to these reactions. Specifically, coping efforts can occur by one partner as a response to the other partner's stress utterance or as a conjoint stress and coping process involving both partners. Dyadic coping includes different perspectives, namely partners' supportive, delegated, negative, and common coping behaviors as a response to individual and dyadic stressors of intradyadic as well as extradyadic sources (Randall & Bodenmann, 2009). The construct captures the spouses' appraisals of their own coping efforts ("I show solidarity with my partner, tell him/her that I am familiar with the problem and stand by him/her"), of the perceived coping efforts undertaken by their partners ("she/he gives me the feeling that she/he understands me and my problems"), as well as of the subjectively assessed conjoint coping efforts ("If something bothers both of us, we usually try to solve the problem together and look for a solution together"). Dyadic coping thus qualifies the way a couple handles stress - affecting either one of the partners or both - assuming interdependency of husbands' and

[1] For a similar version of this chapter see Landis et al. (2013).

wives' mutual effects of their stress reactions and coping. Dyadic coping is classified into different forms of processes: supportive dyadic coping reflects how much the partners positively react to the other one's stress reactions (emotionally and problem-oriented) and how much a partner asks the other one to take over their duties in order to alleviate stress impact (= delegated supportive dyadic coping). Conjoint or common dyadic coping reflects how much both partners cope concurrently. In addition, there are negative forms of dyadic coping, such as hostile dyadic coping, where partners criticize or ridicule each other, and ambivalent dyadic coping where the support is halfhearted. Which supporting process predominates not least depends on relationship standards (Baucom, Epstein, Sayers, & Sher, 1989), situational, personal and dyadic appraisals, goals, and resources (Bodenmann, 1995; Martin, Grühnendahl, & Martin, 2001). The more intimate partners' prioritized relationship-functionality is to ensure constructive communication (Baucom & Epstein, 1990), reciprocal support, and equal investment, and the more those standards are congruent within the dyad, the stronger the positive link to partnership satisfaction (Acitelli, Kenny, & Weiner, 2001; Baucom, Epstein, Rankin, & Burnett, 1996). Accordingly, dyadic coping can be seen as the dynamic process that levels off relationship-functionality in order to align it with the couples' relationship standards (Wunderer & Schneewind, 2008).

Interindividual differences in dyadic coping have been found to be important predictors of marital satisfaction in younger and middle-aged couples (Bodenmann, 2005; 2008; Iafrate, Bertoni, Margola, Cigoli, & Acitelli, 2012). In addition, dyadic coping seems to be an even more important predictor for marital satisfaction than individual coping or social support from persons outside of the relationship (Gmelch & Bodenmann, 2007; Papp & Witt, 2010) and it is related to relationship quality by two mechanisms (Bodenmann, 2005): On the one hand, supportive dyadic coping reduces the negative influence of stress on the relationship. In this case, dyadic coping has a moderating effect. On the other hand, through supportive dyadic coping efforts partners perceive their relationship as supportive, which

leads to more mutual trust, intimacy, and solidarity between partners. In fact, in a meta-analysis Bodenmann (2000) reported correlations from $r = .32$ ($p < .05$) to $r = .63$ ($p < .001$) between dyadic coping and total relationship satisfaction of young and middle aged couples ($g = 1.21$). The highest correlations were found between supportive dyadic coping and conjoint dyadic coping respectively, and relationship satisfaction (correlations up to $r = .62$). However, most of these studies have only included samples of young or middle aged married individuals and have related interindividual differences in dyadic coping within the group of husbands versus wives.

Despite the increasing relevance of older adults' social embedding in the light of demographic development, older spousal dyads' coping and relationship satisfaction have received little attention (Bodenmann, 2000; Levenson, Carstensen, & Gottman, 1993; Schmitt, Kliegel, & Shapiro, 2007). A satisfactory marriage – regardless of the spouses' age – can have positive effects on spouses' physical (Burman & Margolin, 1992; Kiecolt-Glaser & Newton, 2001; Tucker, Friedman, Wingard, & Schwartz, 1996; Walker & Luczcz, 2009) and mental health (Diener, Gohm, Suh, & Oishi, 2000; Gleason, Iida, Bolger, & Shrout, 2003; Walker & Luszcz, 2009). Given the evidence that enduring positive support by intimate partners positively affects partnership quality and adds to partnership stability (Bodenmann & Cina, 2006; Cutrona, Russell, & Gardner, 2005), a high marital satisfaction level may become particularly important for long-term marriages of older adults, who are at higher risk for health problems (Lindenberger, Smith, Mayer, & Baltes, 2010). In addition, especially for older adults the importance of the intimate partner as a source of social support might be very important for several reasons. First, retirement, relocation, and death of friends and family can lead to a narrowing of social networks, which again can increase the importance of the partner as a source of social support. Second, health problems of older adults might limit access to other social support systems (Gagnon, Hersen, Kabacoff, & Van Hasselt, 1999). Third, after a long period of professional and parental orientation, the focus presumably moves onto the

couple level again (Kruse, 1992). Fourth, because emotion regulation is of high importance to older people, they might prefer to spend time with well-known social partners such as one's husband or wife with whom emotions are predictable and more positive (Carstensen, 1992). In one of the few studies on predictors of marital satisfaction of older married individuals, Kaslow and Robison (1996) analyzed factors that led to long-term happy marriages (couples were married between 25 and 46 years). Happy spouses showed positive communication strategies and perceived their partners as good listeners. Supportive behaviors and positive interactions were perceived as highly important factors for long-term, satisfying relationships and Gottman and Levenson (2000) found that the absence of positive interactions – more than the presence of negative interactions – was crucial for divorce prediction. Also, compared to middle-aged married individuals, older couples showed a reduced potential for conflict and more sources of pleasure (Levenson, Carstensen, & Gottman, 1993). Older adults are experts in regulating their own and their social partners' emotions "in social interactions by communicating their emotions verbally and via facial and bodily expressions" (Fingermann & Charles, 2010, p.172) and their efforts to defuse escalation in dyadic interaction are often reciprocated by their partners in equally favorable behavior. Fingermann and Charles (2010) compare this phenomenon to "a coordinated dance to generate and sustain older adults' positive perspectives on the relationship" (p. 173). In the light of decreasing resources in physical mobility and cognition it seems all the more astonishing that older adults are able to even improve their prosocial behaviors and their abilities to regulate their emotions (Blanchard-Fields, Jahnke, & Camp, 1995), thus to adapt successfully to social functional dynamics.

Schmitt et al. (2007) showed with data from 588 married individuals examining age and gender differences in middle and old age that perceived dyadic interaction was the strongest predictor for marital satisfaction (particularly for women). In a study with three age groups (young, middle aged, old), Bodenmann (2000) found significant correlations between

dyadic coping and relationship quality and satisfaction for all age groups. Based on Kessler's (1991) findings that the relation between perceived support and adjustment to stress is stronger than the relation between actual support and adjustment to stress, Acitelli and Antonucci (1994) argue that received support (i.e., actual support by the partner) is less important for relationship satisfaction than perceived social support. Perceived reciprocity (Acitelli & Antonucci; 1994) or the equity-index (Gmelch & Bodenmann, 2007), i.e., one partner's view that a given support is reciprocated in kind, have also been shown to be relevant for relationship satisfaction of young (Gmelch & Bodenmann, 2007) and older individuals (especially for wives' relationship satisfaction, see Acitelli & Antonucci, 1994).

Our study had three main goals. First, on the basis of studies by Bodenmann (2000; Bodenmann & Cina, 2006; Bodenmann & Widmer, 2000) and Bradbury, Fincham, and Beach (2000) we aimed at demonstrating that older husbands' and wives' supportive dyadic coping strategies were significantly associated with marital satisfaction. We expected to find that older adults in long-term relationships perform particularly well in dyadic coping. As the Dyadic Coping Questionnaire used in this study measures the emotional and prorelationship behavioral patterns which are crucial for long-term relationship satisfaction (Berscheid & Lopes, 1997), we expected to find high correlations between supportive dyadic coping and relationship satisfaction. Second, we hypothesized that husbands' and wives' perception of the partner's supportive dyadic coping would be more important for their relationship satisfaction than their own dyadic coping on a dyadic level of analysis (cf. Kessler, 1991). And third, we hypothesized that the subjective perception of the partner's supportive coping efforts would show stronger dyadic effects on spouses' marital satisfaction than the congruency of those perceptions (perceived reciprocity; Acitelli & Antonucci, 1994; Bodenmann, Meuwly, & Kayser, 201; Gmelch & Bodenmann, 2007).

4.1.2 Methods

Participants

The sample for this study consisted of 132 married couples (N = 264 individuals) recruited through newspaper advertisements for couple studies by Heidelberg University and Zurich University. Their ages ranged from 53 – 84 years with an average age of 67.95 years (*SD* = 5.7 years). On average, the couples had been married to their current spouse for 42 years (range = 25-57, *SD* = 6.4). 93.5% were retired and 96% answered to be able to handle financial emergencies (1.8% were not prepared, 2.2% did not answer). All participants' native language was German and they were in good health (SF-36, Kirchberger, 2000; on all eight subscales our sample scored higher than the age related normative sample).

Measures

Dyadic Coping

Questionnaires were sent to couples' homes and spouses were asked to answer them individually and return them in separate envelopes. The Questionnaire to Assess Dyadic Coping as a Tendency (FDCT-N, Bodenmann, 2000) is a self-report questionnaire based upon the systemic-transactional stress concept by Bodenmann (1997) that is now used in a slightly modified version: the Dyadic Coping Inventory (DCI). It comprises items related to a) the expression of stress signals by one partner and b) the other partner's corresponding responsive reactions, namely as defined by supportive, negative and joint dyadic coping, each of the forms being subdivided into problem- and emotion-focused support. It consists of 41 items that can be answered from 1 (= never) to 5 (= very often). Both partners answer the questionnaire individually – male and female questionnaires are identical in items but gender-adapted. The questionnaire consists of the following scales: 1) own stress communication (emotional, problem-oriented, 4 items, Cronbach's α = .80 for wives and .85 for husbands), 2) own supportive dyadic coping (emotional, problem-oriented, delegated, 7 items, Cronbach's α

= .84 and .85), 3) own negative dyadic coping (hostile, ambivalent, withdrawal, 5 items, Cronbach's α = .64 and .74), 4) own evaluation of conjoint dyadic coping (satisfaction with dyadic coping, efficiency of dyadic coping, 7 items, Cronbach's α = .80 and .80), 5) partner's stress communication (emotional, problem-oriented, 4 items, Cronbach's α = .80 for wives and .82 for husbands) , 6) partner's supportive dyadic coping (emotional, problem-oriented, delegated, 7 items, Cronbach's α = .89 and .91), 7) partner's negative dyadic coping (hostile, ambivalent, withdrawal, 5 items, Cronbach's α = .82 and .79), and finally 2 items which evaluate the satisfaction with and the efficiency of partner's coping support. Scores can be calculated for all above-mentioned scales. Additionally, by summarizing the scores for supportive dyadic coping, stress communication and negative dyadic coping (reversed polarity) the total score for dyadic coping for the 39 items ranges from 39 to 195 points. Retest-reliability for the different scales is between *rtt* = 0.63 and 0.83.

In order to test how congruent partners rate each other's coping behavior (hypothesis 3), we computed the congruency index (Bodenmann, 2008; Kenny & Acitelli, 2001) assessing congruency between partner A's evaluation of his/her own supportive coping provided to partner B and partner B's evaluation of their perceived supportive dyadic coping provided by partner A and vice versa (each consisting of 7 items), calculating absolute differences between husband and wife scores. This measure, which is also known as "perceived reciprocity", "perceived similarity" or "assumed agreement" (Acitelli & Antonucci, 1994; Kenny, 1988) renders how congruent partners appraise each other's dyadic coping efforts and it can be calculated on single item level as well as on the level of the different subscales.

Relationship satisfaction

Marital satisfaction was assessed with the Marital-Happiness-Rating-Scale (Terman, 1938), which corresponds to item 31 in the Relationship Satisfaction Questionnaire (PFB; Hahlweg, 1996) and which consists of the following item: "At this moment, how happy do

you think your relationship is?". It is a widely used measure (Hahlweg & Richter, 2010; Kronmüller, et al., 2011; Noyon & Kock, 2006) which allows spouses to rate how happy they are with their intimate relationship, scoring on a six-point scale, ranging from "very unhappy" (0), "unhappy" (1), "rather unhappy" (2), "rather happy" (3), "happy" (4), to "very happy"(5).

Data Analyses

Next to correlational analyses that we performed with SPSS (Version 19), we used AMOS (Version 18; Arbuckle, 2009) to estimate structural equation models with the Actor-Partner-Interdependence-Model (APIM; Kashy & Kenny, 2000 – see Figure 3). The APIM takes into account the non-independent nature of dyadic data and uncovers interpersonal as well as intrapersonal associations between variables in distinguishable dyads.

4.1.3 Results

On average, wives reported a marital satisfaction of 3.70, SD = .96, and husbands of 3.83, SD = .85 (scores referring to the single-item scale) not differing significantly (t-test for paired samples). Sum scores were computed for the 7 items of the FDCT-N corresponding to husbands' and wives' perception of their partners' supportive dyadic coping as well as of their own supportive dyadic coping (see Table 1).

Table 1

Scores for subscales of perceived and own supportive dyadic coping, (N = 132)

Dyadic coping (dc)	M	SD	Range	Possible range
Wives' perception of husbands' supportive dc	25.11	5.33	13-35	0-35
Wives' dc	26.77	3.85	14-35	0-35
Husbands' perception of wives' supportive dc	25.49	5.33	8-35	0-35
Husbands' dc	26.79	3.73	18-34	0-35

To test our first hypothesis, we analyzed if older husbands' and wives' dyadic coping correlates with their relationship satisfaction. Therefore, we correlated self-rated own and perceived supportive dyadic coping scores of husbands and wives with their relationship satisfaction score. Results are shown in Table 2.

Table 2

Correlations (r) between supportive dyadic coping and relationship satisfaction for husbands and wives (N = 132)

	Relationship Satisfaction	
Dyadic coping (dc)	Wives	Husbands
Own supportive dc	.28**	.23**
Perception of partner's supportive dc	.39**	.44**

** $p \leq 0.01$, one tailed

In a further step, we estimated structural equation models with the Actor-Partner-Interdependence-Model with the following independent variables: 1) Husbands' and wives' perception of partners' supportive dyadic coping, 2) husbands' and wives' own reported supportive coping. This enabled us to simultaneously examine the variables' dyadic influences (actor- and partner-effects) on both partners' perceived relationship satisfaction.

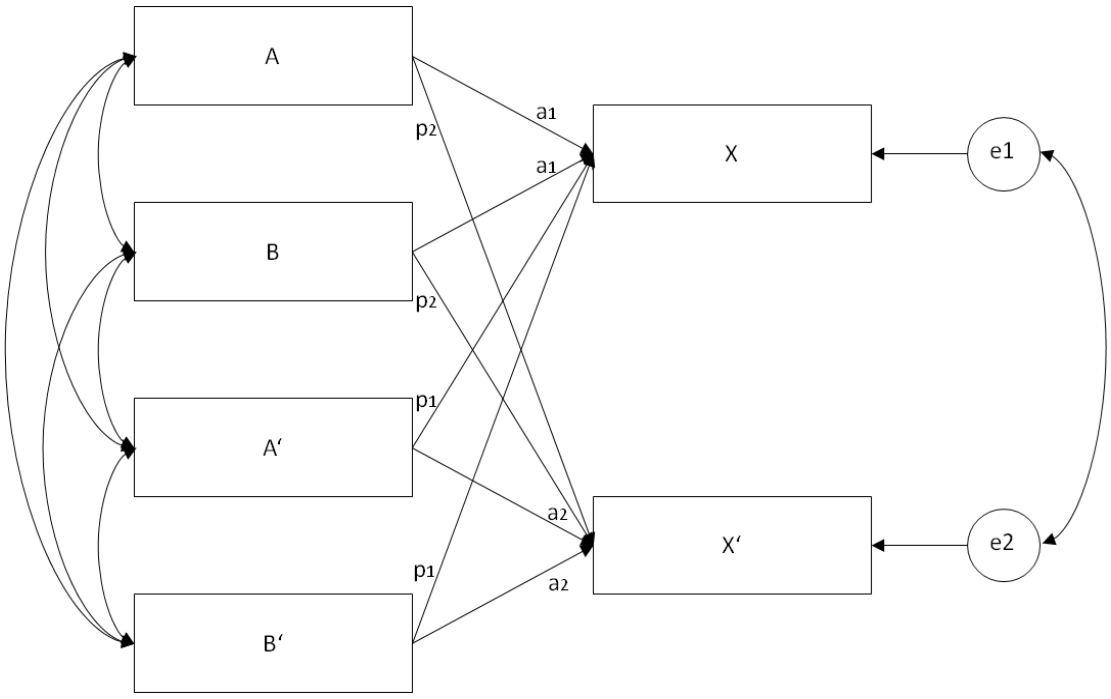

Figure 3. Actor-partner-model. A + B = data for person 1, A’ + B’ = data for person 2, X = outcome variable person 1, X’ = outcome variable person 2. Paths labelled a1 and a2 for the actor effects, p1 and p2 for partner effects. e1 and e2 = residuals. Single-headed arrows = predictive paths, double-headed arrows = correlated variables.

We found our second hypothesis, i.e., whether husbands’ and wives’ perception of the partner’s supportive dyadic coping is more important for their relationship satisfaction than their own dyadic coping, confirmed (see Figure 4). The saturated model revealed that for husbands and wives, their perception of the other one’s coping efforts proved to be significantly predictive of their relationship satisfaction. One’s own supportive dyadic coping was not significantly associated with relationship satisfaction in either of the partners, when partners’ dyadic coping was considered as well in the APIM. Although both measures are significantly correlated with relationship satisfaction (see Table 2), the partner’s dyadic coping outperforms one’s own dyadic coping in the prediction of relationship satisfaction in women and men. Both husbands’ and wives’ relationship satisfaction was significantly associated with their perception of the other partner’s supportive dyadic coping (partner effects).

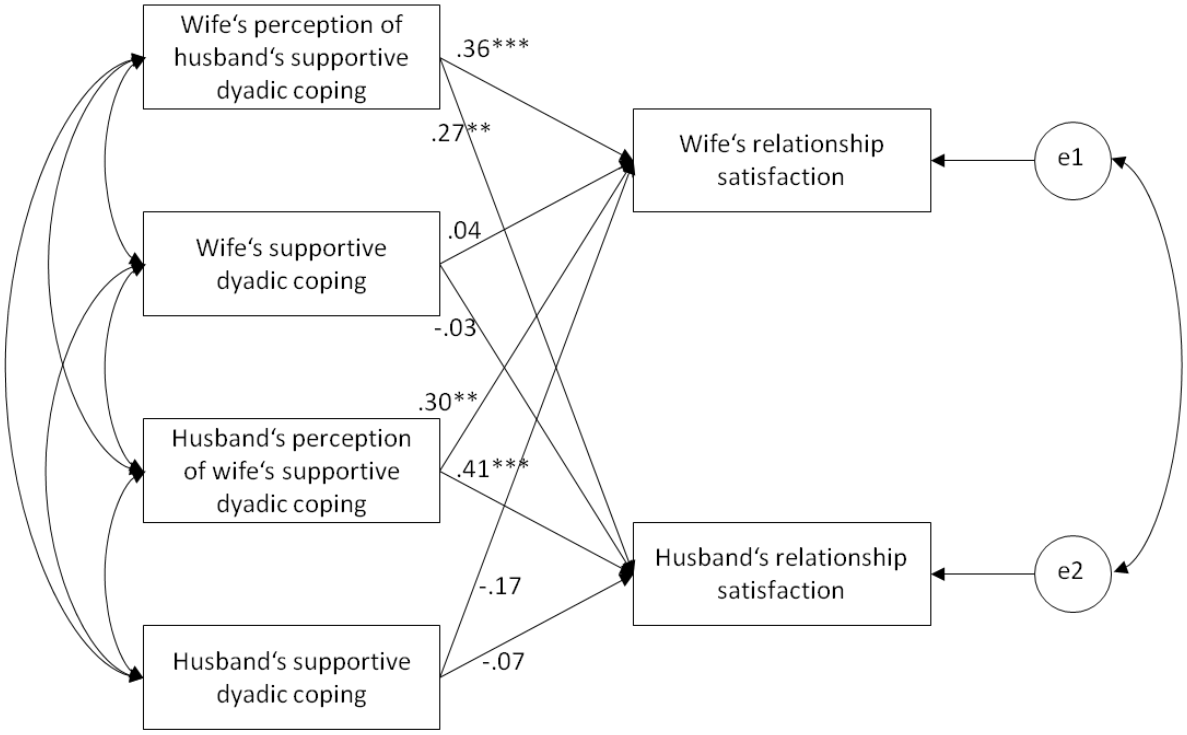

Figure 4. Actor and partner effects for the model of spouses' perception of the partner's supportive dyadic coping, spouses' self-assessed supportive dyadic coping efforts, and spouses' relationship satisfaction. Coefficients represent standardized regression coefficients; ***= p<.001, **=p<.01.

We not only hypothesized that the individual perception of partners' dyadic coping efforts would be positively associated with marital satisfaction, but even more so that the perception would prove to be more important for spouses' assessed satisfaction with their relationship than actual coping efforts. Therefore, to test our third hypothesis, the APIM was also used to test for the contributions of perceived supportive dyadic coping on the one hand and the respective congruency of those coping efforts on the other hand to own and partner's relationship satisfaction. In accordance with our hypothesis, results of the saturated model (Figure 5) show significantly positive relations between wives' and husbands' perceived supportive coping efforts of their partners and their own relationship satisfaction. In addition we found a significantly positive partner effect on the relation between the way husbands perceive their partners' supportive coping efforts and their wives' relationship satisfaction. Actual congruency of own and partner's supportive coping did not show significant effects on spouses' marital satisfaction.

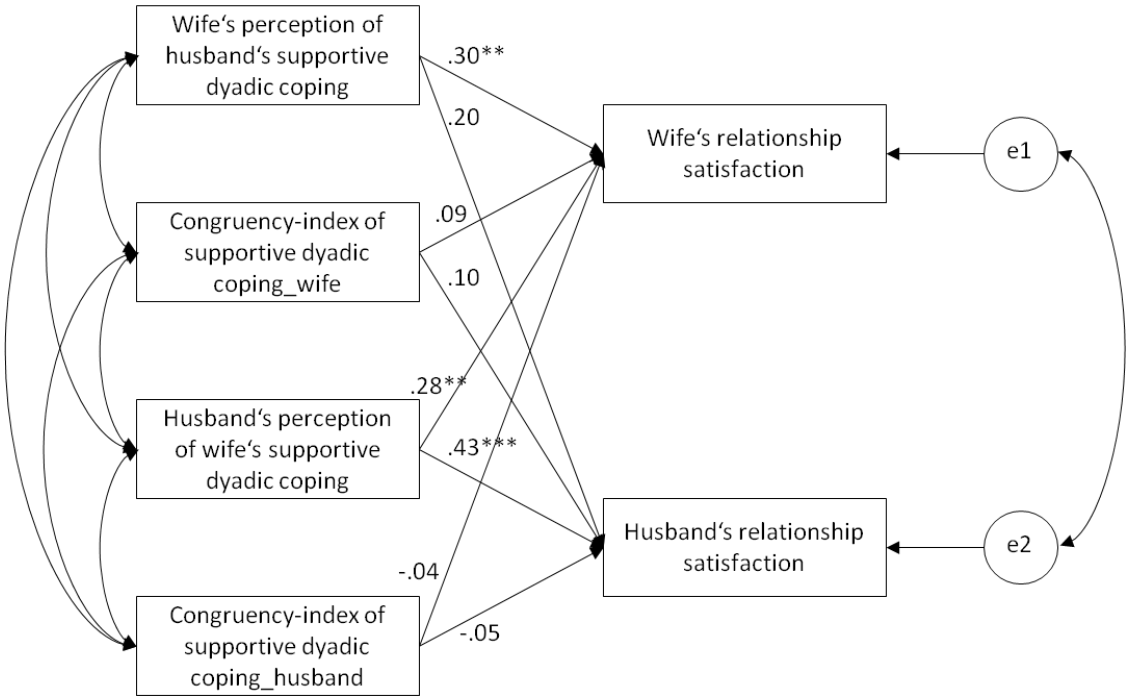

*Figure 5***.** Actor and partner effects for the model of spouses' congruency index for supportive dyadic coping, spouses' perceptions on partners' supportive dyadic coping, and spouses' relationship satisfaction. Coefficients represent standardized regression coefficients; ***= p<.001, **=p<.01.

4.1.4 Discussion

Studies on dyadic coping have found a strong association between interindividual differences in dyadic coping and relationship satisfaction of younger and middle aged couples, but the predictive power of dyadic coping for older adults' relationship satisfaction (Bodenmann & Widmer, 2000) on a dyadic level has received relatively little attention so far. Therefore, our study had three main goals. First, we examined older wives' and husbands' supportive dyadic coping behavior and as we predicted on the basis of results found with younger and middle aged couples and consistent with previous findings on other forms of coping (Acitelli & Badr, 2005; Kuijer, Ybema, Buunk, Thijs-Boer, & Sanderman, 2000; Peter-Wight & Martin, 2011), we found our first hypothesis confirmed; results showed that older spouses' supportive dyadic coping was significantly associated with higher relationship satisfaction. These results are congruent with findings by Bodenmann (2000) showing that for

young couples, supportive dyadic coping and common dyadic coping are the most important predictors of their marital satisfaction. Our results are also in line with the findings reported by Schmitt et al. (2007) that show the importance of dyadic interaction (own support, partner's support, role behavior, joint activities) for the relationship satisfaction of middle aged and older couples. Unfortunately, due to the cross-sectional nature of our study we cannot make conclusions about the direction of the effect. It remains unclear if couples' dyadic coping influences their relationship satisfaction, if the relationship satisfaction influences couples' dyadic support process, or if there is an interaction of both; A high degree of relationship satisfaction could generate the intimate partners' willingness to continuously invest into their partnerships – not least in the form of supportive dyadic coping – which in return would be rewarded by a satisfactory relationship.

Still, a two-year longitudinal study by Bodenmann, Pihet, & Kayser (2006) with young couples shows the influence of dyadic coping on relationship satisfaction. Supporting these findings, Ledermann, Bodenmann, and Cina (2007) showed in a randomized controlled two-year follow-up study that the "Couples Coping Enhancement Training (CCET)" led to a meaningful improvement of relationship satisfaction. However, only future studies examining the longitudinal changes in individual and dyadic coping differences will allow to determine to which degree intradyadic adaptation processes may lead to stabilization of relationship quality and to compare these dynamics in young, middle-aged and older couples.

We were particularly interested in comparing spouses' perception of their partners' dyadic coping efforts – as opposed to the partners' reported own dyadic coping – and their connection to relationship satisfaction. Therefore we formulated in our second hypothesis that how spouses perceive their partners' supportive coping efforts would be more important for their relationship satisfaction than the partners' reported coping behavior and we predicted that husbands' and wives' perception of the other partner's coping efforts would be significant predictors of their relationship satisfaction. In our analyses, we accounted for the non-

independence of couples' data by applying the Actor-Partner-Interdependence-Model, enabling to highlight intradyadic effects.

Our hypothesis was confirmed inasmuch as we found actor effects for husbands and wives. These findings are consistent with previous studies that examined couples' dyadic support (Cramer & Jowett, 2010; Lemay, Clark, & Feeney, 2007). As we hypothesized, dyadic coping reported by the partner explained less variance of one's own relationship satisfaction than perceived dyadic coping of the partner. Similar findings have been reported by Bodenmann (2000) for young and middle aged couples. These results emphasize the idea that social support must be seen as a highly subjective variable (Acitelli & Antonucci, 1994; Sarason, Levine, Basham, & Sarason, 1993). In addition, we found significant partner effects between perceived supportive dyadic coping and relationship satisfaction. In other words, how partner A perceived partner B's coping efforts was not only associated with partner A's satisfaction but also with partner B's satisfaction and vice versa. This implies that the more a partner feels being positively supported the more satisfied is his/her spouse.

In our final hypothesis, we predicted that perceived supportive coping efforts would be even more strongly linked to marital satisfaction than congruency of perceived and own supportive coping efforts. As expected, congruency between perception and reported coping did not have a significant influence on relationship satisfaction whereas perception of partners' supportive coping behavior did significantly influence relationship satisfaction (actor effects). Furthermore, we found a significant partner effects for wives' marital satisfaction which was predicted by husbands' perception of the partners' coping behavior. To get more information on these results, we additionally took a closer look at the indexes of congruency and found that the discrepancy between husbands' own provided supportive coping and the wives' perception of partners' support was higher than the discrepancy between women's own supportive dyadic coping and their partners' perception of received support. Nevertheless discrepancies were positive in all couples, i.e. both husbands and wives in our sample

assumed that they invest more in supportive coping than they get in return. This may be a key explanation as to why perception is more important than congruency: according to Lemay et al. (2007) people tend to project their own supportive behavior onto the supportive coping efforts they perceive in their partners. Although in our study objectively both husbands and wives felt that they provided more support than they received, subjective perception of partners' supportive behavior was of major importance for their satisfaction.

Besides the significant insight that the analysis of our sample provided, our study has several limitations. An important caveat is that the congruency index computed in order to assess congruency of reported own dyadic coping behavior by partner A and perceived dyadic coping of the partner by partner B is based on subjective assessments in both partners. Actual or objective measures (like behavioral data) were not available. Although it is a widely acknowledged measure (Acitelli & Antonucci, 1994; Gmelch & Bodenmann, 2007; Sprecher, 2001), one must bear in mind that it is composed of subjective statements. In order to emphasize the meaningfulness of our findings and to cross-check on perceived dyadic support, it would certainly be of high interest to include observational data capturing dyadic coping from a third perspective in future studies. With regard to perception, it is noteworthy that the significance of our results supporting the association between perceived dyadic coping and relationship quality might be strengthened by the fact that this variable derives from assessments on partners' behavior and not on self-assessment. Furthermore, we used the subscale of supportive dyadic coping items for our analyses. Incorporating further subscales of the FDCT-N with negative or common dyadic coping items might complete the strength of our findings.

Spouses assessed their coping behavior on the basis of their typical reaction in times of stress. Whether they were actually exposed to stress at the moment of assessment was not subject of our study and would certainly be worthwhile controlling for in further studies on dyadic coping. Also, bearing in mind that our sample was relatively healthy and financially

secured, one must be careful to generalize our findings. It remains to be elucidated whether the results of our study can be confirmed with a more heterogeneous sample of older adults, regarding health and financial status.

The descriptive results show that older husbands and wives were quite satisfied with their marriage. Compared to the norm sample (aged 41-50; Hinz, Stöbel-Richter, & Brähler, 2001), older individuals in this study were even slightly happier with their marriage. Our results are in line with findings by Bodenmann, Meyer, Ledermann, Binz, and Brunner (2007), who report a U-shaped pattern of marital happiness over the lifespan, but contradict findings reported by VanLaningham, Johnson and Amato (2001), showing a decrease of relationship satisfaction of the lifespan. In order to substantiate our results for marital satisfaction, which we assessed with the Terman Marital-Happiness-Scale, we looked at correlations between spouses' marital satisfaction and the PFB total score which was previously used and validated for measuring marital satisfaction (for more details, see Amelang & Schmidt-Atzert, 2006; Hahlweg & Richter, 2010; Rossier, Rigozzi, Charvoz, & Bodenmann, 2006) and found correlations of $r = .59$ for husbands and $r = .55$ for wives ($p < 0.01$, two-tailed) between the two measures. Other studies even found correlations as high as $r = .74$ (Hahlweg & Richter, 2010) and .78 (Amelang & Schmidt-Atzert, 2006) with the PFB total score, and $r = .81$ (Hahlweg, Klann, & Hank, 1992) with the total score of the Dyadic Adjustment Scale (Spanier 1976), providing support for the construct validity of this single item rating scale.

The question about relationship satisfaction's development over the lifespan cannot be answered in this study. In order to capture relationship development, longitudinal studies analyzing the interaction between age, marriage duration and cohorts are needed. Overall, our results suggest that dyadic coping could be an important stabilizing resource for long-term marriages in the sense that we understand a stable marriage as an intact marriage (Lewis & Spanier, 1979). Analysis on the dyadic level made clear that older spouses' interactions in

form of dyadic coping – especially in providing positive support – are strongly linked to husbands' and wives' relationship satisfaction. The partners' individual perception of dyadic coping with their spouses is highly important and predominates over self-rated coping and over coping congruency. We believe that these results speak for the fact that spouses can perceive a satisfactory relationship although – objectively seen – analysis shows that partners' support is actually less than the spouses believe it to be. This could indicate that older intimate partners are able to orchestrate their relationship satisfaction through subjective perception and thereby to keep it stable, a hypothesis which would have to be evidenced in longitudinal studies. Also, comparing dyadic coping in different age cohorts' couples could substantiate our assumptions on older couples' dyadic coping expertise. As previously described, relationship satisfaction is highly relevant to people's physical and psychological health, and particularly in old age, any resource that contributes to relationship functionality and consequently to health stabilization is of great value.

4.2 Discrepancies in Dyadic Support Perception and their Implications on Relationship Satisfaction: A Multigroup Analysis[2]

4.2.1. Introduction

Social Support by Intimate Partners

According to the cognitive theory of stress (Cohen & Wills, 1985; Lazarus, 2000), social contacts can function as buffer against stress by cushioning an individual's reaction to a stressor, and thereby exert a curative effect (Stroebe, Stroebe, Abakoumkin & Schut, 1996). Intimate partners' social support quality – whether marital or not – can take different and even higher forms than extra-partnership support (Dehle, Larsen & Landers, 2001), and when it comes to coping with stress-inducing events, social support by intimate partners has shown to be more effective than social support by friends and acquaintancies (Primomo, Yates, & Woods, 1990).

This is mainly due to an assumed similarity, and empirical studies (e.g. Thoits, 1986) found that support by persons with similar moral concepts and values can be of greater use than support from people who differ in these values. Intimate partners indeed usually share common values, which was found to be conducive for an effective support (Acittelly, Kenny & Weiner, 2001). Additionally, long-term partners may not only find themselves exposed to the same stressors (Berg & Upchurch, 2007), but also share a common history of tackling the problems and coping with both acute and chronic stressors (Karney, Story, & Bradbury, 2005). Whenever couples had the abilities to cope and showed efficient support provision, stressful events were even able to contribute to stabilizing relationships (Conger et al., 1990; Conger, Rueter, & Elder, 1999; Halford, Scott, & Smythe, 2000).

Notwithstanding whether the stress source arises from within a partnership or whether the strain stems from an extradyadic situation, it can quickly cross over onto both partners and

[2] A similar version of this chapter is currently being prepared for publication

affect the partnership if the one who was exposed to the stress first is not able to cope individually (Larson & Almeida, 1999; Rook, Dooley, & Catalano, 1991; Westman & Vinokur, 1998).

Bodenmann (2000; 2005) differentiates between 1) individual stress, strains that primarily affect one of the intimate partners, 2) strains affecting both partners individually, both potentially affecting the partner indirectly (= indirect dyadic stress), 3) same stress affecting both partner but not in the same amount, and 4) dyadic stress affecting both partners equally, the two latter referring to direct dyadic stress. Previous research indicates that intimate partners are a primary source of comfort and of social and emotional support when their partners are stressed. Bodenmann's (2000, 2005) cascade model postulates that in close relationships, partners use individual coping to try to overcome a problem in a first stage and that they refer to their partners for support when individual coping was not sufficient in a second stage. The support seeking is eventually extended to friends and relatives in a later stage. According to the author, the claiming for coping support follows the principle of proximity and intimacy, which is why coping support is sought for with intimate partners at first.

Equity in dyadic social support and its association to relationship satisfaction

Social support as a functional concept is an interactive process related to issues of reciprocity with a clear distinction between support provided and received (Schwarzer & Knoll, 2007).

Reciprocation of social support in an intimate relationship is also called supportive equity (Gleason, Iida, Bolger, & Shrout, 2003), and refers to one partner's individual perception of the balance between their support provision and receipt. In accordance with equity theory (Walster, Walster, & Berscheid, 1978), the perception of a fair balance between revenues and expenses of social support within an intimate partnership can be of high

importance, as people who see themselves in an equitable relationship feel more comfortable and satisfied with their partners than those who perceive inequity (Hatfield, Utne, & Traupmann, 1979; Van Yperen & Buunk, 1990). Esteem enhancement theory however (see Batson, 1998), assumes that positive feelings can arise whenever a partner provides social support, although the support cannot be returned reciprocally. The underlying assumption is that intimate relations are communal relationships, based on emotional attachment and commitment (Clark & Mills, 1979), and not building on a predictable interaction (Clark & Mills, 1993). Accordingly, altruistic behavior within an intimate partnership can be beneficial for both individuals' well-being (Väänänen, Buunk, Kivimäki, Penti & Vahtera, 2005). Opposed to this, equity theory postulates that individuals who subjectively invest more than they receive are stressed by this perceived imbalance (DeMaris, 2010). Likewise, an overbenefit of social support can lead to more sadness, frustration and finally result in decreased well-being: Especially the felt inability to reciprocate received support can lead to a major burden and to feelings of inferiority, and to loss of status within the relationship (Gleason, Iida, Shrout, & Bolger, 2008).

Irrespective which theory is given more credit, the subjective perception of social support and its association with relationship satisfaction is particularly noteworthy, but it is important to allude to the manifold methodological approaches and definitional concepts which have been brought up so far to capture support perception by intimate partners. Lemay, Clark, and Feeney, for instance, speak of a perceived *responsiveness to needs* (2007), which they found to depend strongly on partners' subjective projections of their own responsiveness, and which they measured with a shorter version of the Caregiving Questionnaire by Kunce and Shaver (1994). Other studies assessed *perceived positive and negative support* (Don, Mickelson, & Barbee, 2013) with the UCLA Social Support Inventory (Dunkel-Schetter, Feinstein, & Call, 1986), or *enacted responsiveness* (Debrot, Perrez, Cook, & Horn, 2012) to assess supportive acts to intimate partners, just to name a few. The present study builds on

prior research on support similarity, equity, or reciprocity, using dyadic coping (Bodenmann, 1995) to measure intimate partner's mutual support. Those studies focused on the importance of perception of dyadic social support and on its implications for intimate partners' relationship satisfaction (Gmelch & Bodenmann, 2007; Iafrate, Bertoni, Donato, & Finkenauer, 2012; Iafrate, Bertoni, Margola, Cigoli, & Acitelli, 2012).

Indeed, the support provided by one partner does not necessarily correspond to the perception of the supported partner. Acitelli and Antonucci (1994) focused on this possible discrepancy by examining whether the subjectively provided support (as indicated by the supportive partner) was congruent with the subjectively perceived support (as indicated by the supported partner), and in what manner this ratio contributed to relationship satisfaction. They found that the felt or perceived reciprocity of social support within the partnership was higher than congruency of support provision and receipt which was measured by comparing individual scores as indicated by both partners.

Perceived reciprocity or similarity reflects the balance between given and received social support from one partner's perspective. In contrast, actual reciprocity measures the congruency between given and received social support by opposing the two subjective indications by both partners. Research has provided evidence that perceived reciprocity (also perceived similarity, assumed agreement, or assumed similarity, Acitelli & Antonucci, 1994; Cramer & Jowett, 2010; Kenny, 1988) plays a key role in relationship functioning (Sprecher, 2001), and it was found to be a stronger predictor for relationship satisfaction than actual reciprocity, regardless of the duration and status of the relationships (Gmelch & Bodenmann, 2007; Iafrate et al., 2012). Furthermore, Landis, Peter-Wight, Martin, & Bodenmann (2013) found that individual perception of support provision by intimate partners matters more for relationship satisfaction than partners' reported support, a finding which confirms results of earlier studies with evidence for the beneficial effect of support perception on psychological and physical health, notwithstanding the perception's accuracy (Wethington & Kessler, 1986).

The aim of our study

The differences in perception and valuation of received social support are our central concern in this study. We were interested in finding out whether measures of discrepancies in couples‘ social support play a role in predicting their partnership satisfaction and if so, whether the associations between discrepancy measures of dyadic coping and relationship satisfaction differ by age cohorts.

The importance of support perception for marital satisfaction led us to analyze in depth the nature of perception as such. We were interested in finding out whether women’s and men’s perceptions of supportive and negative dyadic coping in intimate relationship differed across three age cohorts or not. Furthermore, we were keen on examining whether it is perceived equity, i.e. an intrapersonal balance of giving and receiving support, or whether it is perceived interpersonal equity in giving and taking, that matters more in association with relationship satisfaction. Previous research on support perception in couples included individuals’ age ranging roughly from 18 to 95, but as far as we know, no comparison between younger, middle-aged, and older couples has been conducted in one study. We were therefore curious to see whether results on support perception would be confirmed in a multigroup comparison of the same theoretical model in three age groups.

Our interest was based, on the one hand, on studies who found that perceived similarity of giving and taking support mattered more for relationship satisfaction than actual similarity (Iafrate et al, 2012b), and than interpersonal congruency (Iafrate et al, 2012a). On the other hand, on findings by Acitelli and Antonucci (1994), whose study revealed in fact no stronger relationship between *perceived* reciprocity and relationship satisfaction than between *actual* reciprocity and relationship satisfaction. However, in contrast to that study, we draw on the Relationship Assessment Scale (Hendrick, 1988) to assess relationship satisfaction, a measure which has proven to discriminate well between couples who were to stay together or

to split apart, whereas Acitelli and Antonucci had included marital satisfaction in a global measure of well-being. Using the Dyadic Coping Inventory (Bodenmann, 2008) to assess dyadic social support, we assumed that the equity index, corresponding to Acitelli and Antonucci's *perceived reciprocity*, would prove to be more strongly associated with relationship satisfaction than the reciprocity index, corresponding to *actual reciprocity* (see paragraph on discrepancy scores of dyadic coping, in the measures section). As earlier studies found that both positive and negative dyadic coping predicted relationship satisfaction, we decided to include both forms of dyadic coping in our analyses.

Accordingly, we expected interpersonal discrepancies between own and perceived positive dyadic coping (equity index of positive dyadic coping) on the one hand (Hypothesis 1a), and own and perceived negative dyadic coping (equity index of negative dyadic coping) on the other hand (Hypothesis 1b), would correlate negatively with relationship satisfaction for both men and women, and that those correlations would be higher than the ones between the reciprocity indices and relationship satisfaction.

In order to respect the dependency of couples' data and to simultaneously estimate the effects of both partners' equity and reciprocity indices, we estimated Actor-Partner-Interdependence Models (APIM; Kashy & Kenny, 2000) as Structural Equation Models (SEM). Based on the findings by Gmelch and Bodenmann (2007), we expected the equity indices to have significant actor and partner effects on relationship satisfaction for positive dyadic coping (Hypothesis 2a), that is both partners' indices affect both partners' satisfaction . And based on findings by Bodenmann, Pihet, and Kayser (2006), we also expected significant actor and partner effects between the equity indices for negative dyadic coping and relationship satisfaction (Hypothesis 2b). Finally, we hypothesized that the associations between the equity indices of positive dyadic coping and relationship satisfaction would be similar in all three cohorts (Hypothesis 3a) as would be the case for negative dyadic coping (Hypothesis 3b). For this purpose, we respecified the models as multigroup models with age-

cohort as grouping factor, which would reveal whether age-group membership would moderate the specified relations between discrepancy indices and relationship satisfaction.

4.2.2 Methods

Participants and Procedure

A total of 368 intimate couples were recruited by means of newspaper articles and advertisements for this study. Participation criterion required couples to have been sharing an intimate relationship for at least one year at the time of survey. Couples were recruited in three different age-cohorts: (1) ranging from 20 to 35 years, (2) ranging from 40-55 years, and (3) ranging from 65-80 years, allowing a two-years tolerance for both under- and over-range for one of the partners. After exclusion of one couple due to missing data, our final sample included 367 dyads whose average relationship duration was of M = 21.59 years (SD = 18.14), ranging from one to 60 years. The mean age for women was 47.14 (SD = 18.45), men's average age was 49.24 (SD = 18.32), the youngest being a 19 years old woman, the oldest being a 82 years old man. Individuals reported an above-average relationship satisfaction of 4.33 for women (SD = .50) and of 4.37 for men (SD = .49) on the German RAS (Sander & Böcker, 1993).

Measures

Relationship Satisfaction

We used the German version (Sander & Böcker, 1993) of the Relationships Assessment Scale (Hendrick, 1988). Couples rated their relationship satisfaction on seven items in a 5-point Likert format, ranging from 1 (= not at all) to 5 (= completely), example items being "How well does your partner meet your needs", and "To what extent has your relationship met your original expectations", negative items 4 and 7 being reverse-score recoded. Cronbach's α was .84 for women's and .86 for men's scale.

Dyadic Coping

The Dyadic Coping Inventory (DCI, Bodenmann, 2008) is a self-report questionnaire based upon the systemic-transactional stress concept by Bodenmann (1997). It comprises items related to a) the expression of stress signals by one partner and b) the other partner's corresponding responsive reactions, namely as defined by supportive, negative and common dyadic coping, each of the forms being subdivided into problem- and emotion-focused support. It consists of 37 items that can be answered from 1 (= hardly ever) to 5 (= very often). Both partners answer the questionnaire individually – male and female questionnaires are identical in items but gender-adapted. The questionnaire consists of the following scales: (1) own stress communication (emotional, problem-oriented, 4 items), (2) own supportive dyadic coping (emotional, problem-oriented, delegated, 7 items), (3) own negative dyadic coping (hostile, ambivalent, withdrawal, 4 items), (4) own evaluation of conjoint dyadic coping (satisfaction with dyadic coping, efficiency of dyadic coping, 5 items), (5) partner's stress communication (emotional, problem-oriented, 4 items,) , (6) partner's supportive dyadic coping (emotional, problem-oriented, delegated, 7 items), (7) partner's negative dyadic coping (hostile, ambivalent, withdrawal, 4 items, and finally 2 items which evaluate the satisfaction with and the efficiency of partner's coping support. Scores can be calculated for all above-mentioned scales. Additionally, by summarizing the scores for supportive dyadic coping, stress communication and negative dyadic coping (reversed polarity) the total score for dyadic coping for the 35 items ranges from 35 to 175 points. To assess positive dyadic coping scores, we concentrated on the 7 items assessing own supportive dyadic coping efforts, and on the 7 items assessing the perceived coping efforts undertaken by the partner, respectively. For the negative scores, we used 4 items assessing own and 4 items assessing perceived dyadic coping by partners. Cronbach's alpha was $\alpha = .72$ for women's own positive dyadic coping and $\alpha = .72$ for men's, $\alpha = .82$ for women's perceived coping by partner and $\alpha = .78$ for men's. Regarding negative dyadic coping scales, Cronbach alpha was

α = .70 for women's own negative dyadic coping, and α = .71for men's, α = .76 for women's perceived negative coping by partner, and α = .68 for men's – all coefficients being in line with previous findings (e.g., Bodenmann, 2008; Bodenmann, Meuwly, & Kayser, 2011).

Discrepancy scores of dyadic coping

We used two discrepancy measures of both positive and negative dyadic coping (see Bodenmann, 2008, for details): the equity index, and the reciprocity index (Figure 6).

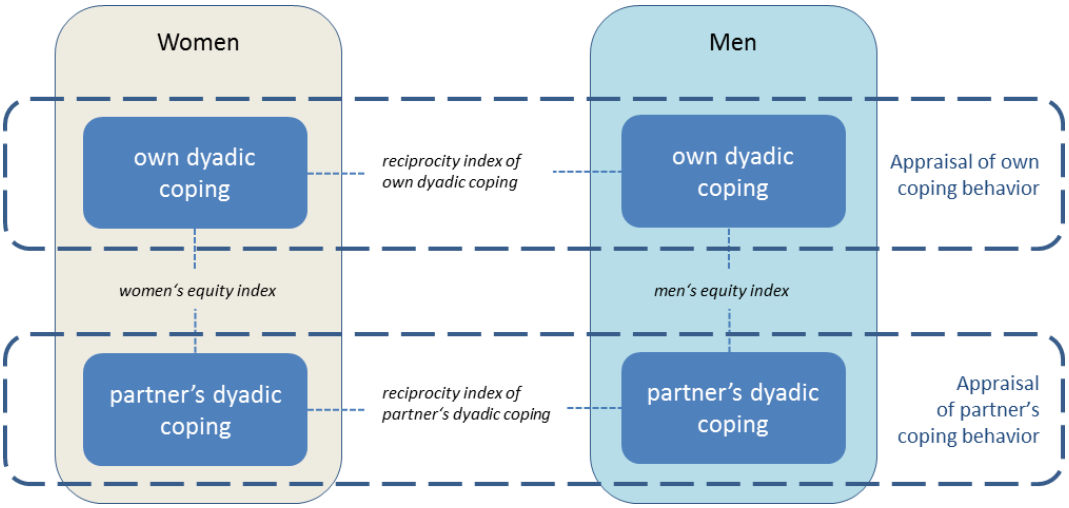

Figure 6. Discrepancy measures of dyadic coping: equity index and reciprocity index, (based on Gmelch & Bodenmann, 2007).

The equity index renders the difference between a person's appraisal of their own dyadic coping efforts and their perception of the partner's efforts, providing a women's equity index, as well as a men's equity index. The reciprocity index, on the other hand, refers to the score difference of both partners' appraisal of their own dyadic coping efforts (= reciprocity index of own dyadic coping), and on the difference of both partners' appraised perceptions of the other partners' dyadic coping efforts (= reciprocity index of perceived dyadic coping).

4.2.3 Results

Preliminary analyses – comparisons across groups

First, we looked at descriptives in our variables, comparing the three age groups. One-way ANOVA analysis did not reveal any significant differences in women's and men's relationship satisfaction across the three groups. Regarding positive dyadic coping, one-way ANOVA analysis revealed a significant difference in women's own positive dyadic coping across age groups, $F(2, 95) = 8.02$, $p < 0.001$; Tamhane's multiple comparisons post-hoc test revealed that womens' own positive dyadic coping in the first cohort ($M = 3.89$, $SD = .52$, $N = 122$) was significantly higher ($p < 0.05$) than in the third cohort ($M = 3.71$, $SD = .58$, N 120) cohort, and also significantly higher ($p < 0.001$) than in cohort 2 ($M = 3.64$, $SD = .49$, $N = 125$), women of the second cohort reporting the lowest own positive dyadic coping. Men's own positive dyadic coping, as well as both women's and men's perceived dyadic coping by partner did not differ significantly across age groups.

For negative dyadic coping, one-way ANOVAS revealed significant differences across groups in women's own negative dyadic coping ($F(2, 95) = 9.90$, $p < 0.001$), and women's perceived negative dyadic coping ($F(2, 95) = 12.38$, $p < 0.001$), as well as in men's perceived dyadic coping ($F(2, 95) = 3.57$, $p < 0.05$). Tamhane's multiple comparisons post-hoc test revealed that womens's own negative dyadic coping differed significantly ($p < 0.001$) between cohort 1 ($M = 1.64$, $SD = .63$, $N = 122$) and cohort 3 ($M = 2.0$, $SD = 68$ $N = 120$), as well as between cohort 2 ($M = 1.72$, $SD = .64$, $N = 125$) and cohort 3 ($p < 0.01$). Furthermore, women's perceived negative dyadic coping differed significantly ($p < 0.001$) between group 1 ($M = 1.72$, $SD = .70$, $N = 120$ and group 3 ($M = 2.12$, $SD = .84$, $N = 120$), and between group 2 ($M = 1.79$, $SD = .73$, $N = 125$) and group 3 ($p < 0.01$). Finally, men's perceived negative dyadic coping differed significantly ($p < 0.05$) between group 1 ($M = 1.50$, $SD = .51$, $N = 122$) and group 3 ($M = 1.70$, $SD = .65$, $N = 120$).

A within group comparison between men and women revealed neither significant differences in relationship satisfaction, nor in own and perceived supportive dyadic coping in cohort 1 and 2. However, in cohort 3, men and women did differ significantly in relationship satisfaction, women scoring significantly lower ($p < 0.001$) than men. Interestingly, the relationship satisfaction developed in an opposite pattern for women and men across the age cohorts (see Figure 7).

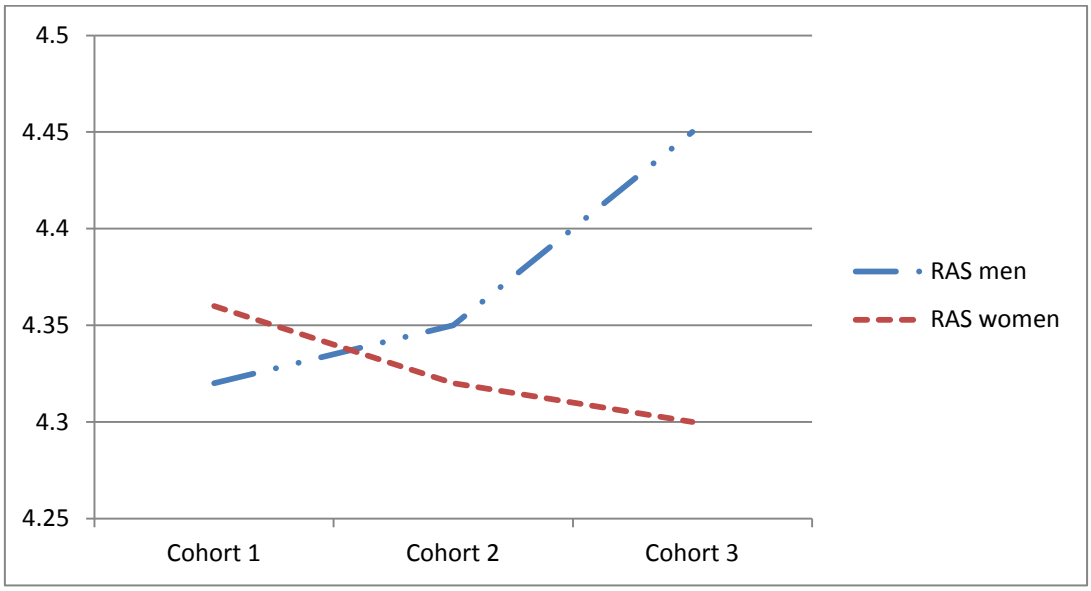

Figure 7. Relationship satisfaction across 3 age cohorts. *RAS* = Relationship Assessment Scale.

Preliminary analyses - own vs. perceived dyadic coping

Comparing the participants' assessments of own and of received positive support, we found that in cohort 1, both women's and men's perceived positive support by partners was significantly higher than their own positive support provided ($p < 0.001$). In cohort 2, only men rated their own provided support significantly higher than the received support by their partners ($p < 0.01$), whereas women rated both equally. Finally, in cohort 3, the women had a significant difference ($p < 0.05$) in the assessments of own and perceived positive support,

with own support being higher, whereas men rated own and perceived support without noteworthy difference.

Relating discrepancy of dyadic coping to relationship satisfaction

Hypothesis 1a und 1b: Equity index shows higher significant correlations with relationship satisfaction than reciprocity index.

Means and standard deviations of discrepancy measures are reported in Table 3 for all groups. As expected, women's equity index of positive dyadic coping correlated significantly in a negative direction with relationship satisfaction, revealing significant actor and partner effects in all cohorts. Men's equity index however, did not show such a consistent pattern, correlating significantly with both partners' relationship satisfaction only in cohort 1, and with men's relationship satisfaction in cohort 3. Reciprocity index of perceived positive support had only significant negative correlations with both partners' relationship satisfaction in cohort 1, and reciprocity index of own positive dyadic coping showed no significant correlations with any relationship satisfaction in any cohort (Table 4). As for negative dyadic coping (Table 5), men's equity index proved to show significant correlations with both women's and men's relationship satisfaction, as did women's equity index with the exception of a non-significant correlation with men's relationship satisfaction in cohort 3. Reciprocity index of perceived dyadic coping correlated significantly with couples' relationship satisfaction in all cohorts but with men's in cohort 3. Finally, reciprocity index of own dyadic coping correlated merely with women's relationship satisafaction of cohort 1 and 2 and with men's of cohort 2. The pattern was thus inconsistent across cohorts.

Table 3

Means and Standard Deviations of Discrepancy Measures of Dyadic Coping

	Positive Dyadic Coping						Negative Dyadic Coping					
	Cohort 1		Cohort 2		Cohort 3		Cohort 1		Cohort 2		Cohort 3	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Equity Index woman	5.90	3.64	5.80	3.25	5.82	3.53	2.71	2.15	2.74	2.09	3.22	1.95
Equity index man	5.24	2.89	5.18	2.73	4.67	2.89	2.32	1.85	2.42	1.89	2.36	1.65
Reciprocity index perceived	6.98	2.99	6.72	3.03	6.74	3.35	2.80	2.20	3.29	2.01	3.84	2.31
Reciprocity index own	5.62	2.33	5.54	2.17	5.63	3.06	3.07	1.84	3.46	1.97	3.17	1.89

Note: *N* cohort 1 = 122 dyads, *N* cohort 2 = 125 dyads, *N* cohort 3 = 120 dyads;

Table 4

Correlations between discrepancy measures of positive dyadic coping and relationship satisfaction within cohorts.

	Women's Relationship Satisfaction			Men's Relationship satisfaction		
	Cohort 1	Cohort 2	Cohort 3	Cohort 1	Cohort 2	Cohort 3
Equity index woman	-.34**	-.20*	-.24**	-.25**	-.31**	-.24**
Equity index man	-.39**	-.10	-.20**	-.38**	-.16	-.16
Reciprocity index perceived	-.27**	-.08	-.16	-.22*	-.14	-.06
Reciprocity index own	-.12	-.03	.01	-.09	-.01	-.11

Note: *N* cohort 1 = 122 dyads, *N* cohort 2 = 125 dyads, *N* cohort 3 = 120 dyads; * $p < .05$, ** $p < .01$.

Table 5

Correlations between discrepancy measures of negative dyadic coping and relationship satisfaction within cohorts.

	Women's Relationship Satisfaction			Men's Relationship satisfaction		
	Cohort 1	Cohort 2	Cohort 3	Cohort 1	Cohort 2	Cohort 3
Equity index woman	-.29**	-.36***	-.20*	-.27**	-.36**	-.12
Equity index man	-.27**	-.26**	-.32**	-.30**	-.32**	-.39**
Reciprocity index perceived	-.25**	-.26**	-.28**	-.22*	-.26**	-.13
Reciprocity index own	-.27**	-.20*	-.14	-.09	-.19*	-.13

Note: *N* cohort 1 = 122 dyads, *N* cohort 2 = 125 dyads, *N* cohort 3 = 120 dyads; * $p < .05$, ** $p < .01$.

Test of the actor-partner-interdependence model

Hypothesis 2a and 2b: Equity indices of positive and negative dyadic coping have significant actor and partner effects on relationship satisfaction.

We estimated structural equation models (SEM) with IBM SPSS AMOS (Version 19; Arbuckle, 2009) to estimate the Actor-Partner-Interdependence-Model (APIM) with the following independent variables: (1) Husbands' equity index of positive dyadic coping, (2) wives' equity index of positive dyadic coping, (3) reciprocity index of own positive dyadic coping, and (4) reciprocity index of perceived positive dyadic coping by partner. This enabled us to simultaneously examine the variables' influences on the endogeneous variables (a) women's relationships satisfaction, and (b) men's relationship satisfaction. Furthermore, we held relationship duration constant in our model by including it as a contol variable (Figure 8).

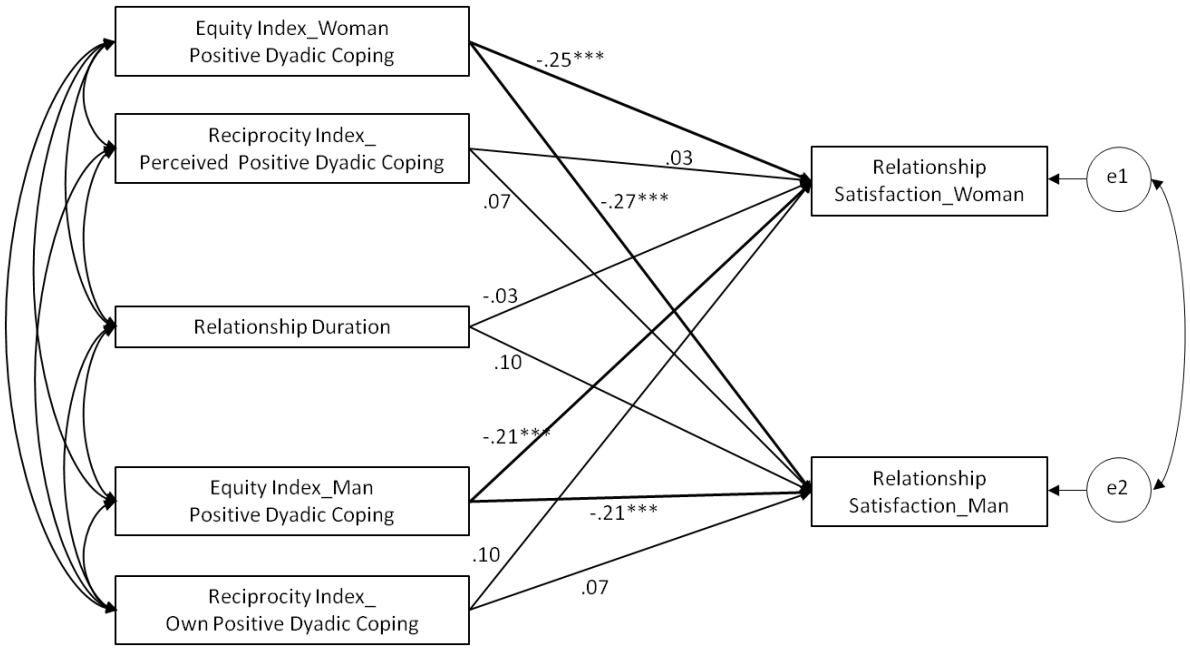

Figure 8. Actor and partner effects for the model of spouses' equity index of positive dyadic, of reciprocity indeces of own and perceived positive dyadic coping, and of spouses' relationship satisfaction. Coefficients represent standardized regression coefficients; ***= p<.001. *N* = 367 dyads.

As expected, the saturated model revealed that both women's and men's equity index showed significant ($p < 0.001$) negative correlations with own relationship satisfaction (actor effects) and with the partners' relationship satisfaction (partner effects). Reciprocity indices did not reveal any significant path between exogeneous and endogeneous variables.

The same model was calculated for negative dyadic coping and showed a similar pattern: Both men's and women's equity index was negatively associated with relationship satisfaction, revealing significant actor and partner effects (Figure 9). Furthermore, unlike with positive dyadic coping, the reciprocity index of perceived negative dyadic coping did reveal a significant effect with women's relationship satisfaction ($p < 0.05$).

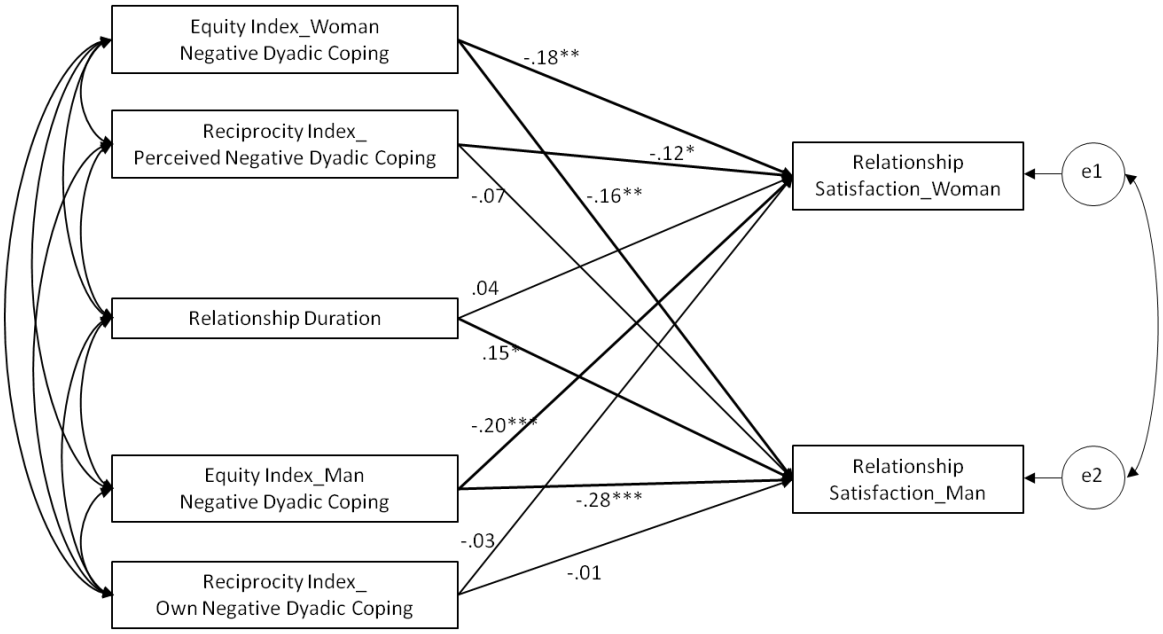

Figure 9. Actor and partner effects for the model of spouses' equity index of negative dyadic, of reciprocity indeces of own and perceived positive dyadic coping, and of spouses' relationship satisfaction. Coefficients represent standardized regression coefficients; ***= p<.001. $N = 367$ dyads.

Multigroup Analysis

Hypothesis 3a and 3b: The predominant role of the equity index as a predictor for relationship satisfaction applies to all three age cohorts.

Multigroup analysis (see Byrne, 2009, for details) allows a simultaneous estimation of statistical models in different groups. We used this technique to simultaneously estimate an APIM within each age cohort. Within the framework of multigroup analysis, a set of models can be estimated. In principle, the first model to be estimated is a saturated model without any constraints. That is, in every age cohort the APIM is freely estimated and all parameters may differ. In succeeding steps, constraints (setting parameter estimates equal to each other) are incorporated into the model to make the model more parsimonious and to statistically test parameters differences across age cohorts. In order to test hypothesis 3a, regression weights have to be set equal across age cohorts to test age-specific effects.

We thus had a model comprising the independent variables women's equity index of positive dyadic coping, men's equity index of positive dyadic coping, reciprocity index of positive support received by partner, reciprocity index of own provided positive support, as well as the variable relationship duration, which we so controlled for. Furthermore the model consisted of the two dependent variables women's relationship satisfaction and men's relationship satisfaction. Model comparison of the various models with constraints revealed that the model with invariant effects of women's equity-indices on their own relationship satisfaction across the age groups proved to show the best fit, with a Chi-square value of $\chi^2(2)= 1.060$ ($p = .589$), the Comparative Fit Index (CFI) = 1.000, and the Root Mean Square Error of Approximation (RMSEA) = <.000. Women's equity index of positive dyadic coping thus revealed a significant effect on their relationship satisfaction in all three age cohorts. The associations between the other indices and the endogenous variables were not as consistent

across groups (see Table 6). In cohort 1, all equity indices showed significant actor effects on relationship satisfaction and men's equity index was significantly associated with women's relationship satisfaction, whereas women's equity index did not show this partner effect. Cohort 2 did only reveal significant actor effects between equity indices and relationship satisfaction. Finally, in cohort 3, all equity indices showed significant associations with the relationship satisfaction measures except for the effect of men's equity index on men's relationship satisfaction. In the third cohort, only a significant positive effect ($p<0.05$) between the reciprocity index of own supportive dyadic coping and women's relationship satisfaction could be found, whereas in all other cohorts no significant effects for any of the reciprocity indices could be found. This latter finding was unexpected as it implies that the less the partners were congruent in their estimation of their own supportive behavior, the better for women's relationship satisfaction.

Next, we tested whether discrepancy measures of negative dyadic coping would show equal associations with relationship satisfaction across groups. We started with a saturated model without constrains, comprising the independent variables women's equity index of negative dyadic coping, men's equity index of negative dyadic coping, reciprocity index of negative support received by partner, reciprocity index of own provided negative support, as well as again the variable relationship duration for control and the two dependent variables women's relationship satisfaction and men's relationship satisfaction. We applied the same procedure as with the positive dyadic coping model, constraining our model paths step by step to invariance across groups. The best model with equality constraints that held across all three groups proved to be the one with the regression coefficients of women's equity index of negative dyadic coping on both own and their partners' relationship satisfaction set to equal; $\chi^2(5) = 2.368$ ($p = .796$), CFI = 1.000, RMSEA = <.000. Furthermore, for cohorts 2 and 3,

men's equity index of negative dyadic coping revealed significant actor and partner effects on relationship satisfaction, whereas in cohort 1, only the actor effect of this association was significant. Reciprocity indices showed no significant associations to neither women's nor men's relationship satisfaction in any age group (Table 7).

Table 6

Summary of results for groups' regression analysis predicting women's and men's relationship satisfaction from equity indices and reciprocity indices of positive dyadic coping. Standardized regression weights for constrained model with women's equity-index on women's relationship satisfaction constrained to invariance across groups.

	Estimates		
	Cohort 1	Cohort 2	Cohort 3
Relationship satisfaction_woman ← Equity index_woman	-.28***	-.25***	-.24***
Relationship satisfaction_man ← Equity index_woman	-.17	-.37***	-.27**
Relationship satisfaction_woman ← Equity index_man	-.35***	-.05	-.25**
Relationship satisfaction_man ← Equity index_man	-.39***	-.09	-.19
Relationship satisfaction_woman ← Reciprocity index perceived	-.02	.08	-.05
Relationship satisfaction_man ← Reciprocity index perceived	-.02	.11	.09
Relationship satisfaction_woman ← Reciprocity index own	.17	.02	.21*
Relationship satisfaction_man ← Reciprocity index own	.17	.07	.03

Note: *** = $p < .001$; ** = $p < .01$; * = $p < .05$; N cohort 1 = 122; N cohort 2 = 125, N cohort 3 = 120.

Table 7

Summary of results for groups' regression analysis predicting women's and men's relationship satisfaction from equity indices and reciprocity indices of negative dyadic coping. Standardized regression weights for constrained model with women's equity-index on women's and men's relationship satisfaction constrained to equality across groups.

	Estimates		
	Cohort 1	Cohort 2	Cohort 3
Relationship satisfaction_woman ← Equity index_woman	-.19***	-.18***	-.15***
Relationship satisfaction_man ← Equity index_woman	-.19***	-.19***	-.15***
Relationship satisfaction_woman ← Equity index_man	-.16	-.20*	-.24**
Relationship satisfaction_man ← Equity index_man	-.23*	-.25**	-.38***
Relationship satisfaction_woman ← Reciprocity index perceived	-.07	-.13	-.15
Relationship satisfaction_man ← Reciprocity index perceived	-.09	-.14	.07
Relationship satisfaction_woman ← Reciprocity index own	.11	-.03	.03
Relationship satisfaction_man ← Reciprocity index own	.01	- .05	-.01

Note: *** = $p < .001$; ** = $p < .01$; * = $p < .05$; N cohort 1 = 122; N cohort 2 = 125, N cohort 3 = 120.

4.2.2 Discussion

The present study focused on discrepancy measures of positive and negative dyadic coping and their association with relationship satisfaction. The discrepancy measures were built by calculating the absolute differences between items of the Dyadic Coping Inventory (Bodenmann, 2008). The equity index rendered the absolute difference between own and perceived coping behavior as assessed by both women and men, and the reciprocity index rendered the absolute difference between men's and women's own coping behavior and the difference of both's perceived coping behavior. This enabled us to examine the question of whether discrepancies of dyadic coping play a role in relationship satisfaction. Based on previous findings, we hypothesized that both women's and men's equity index of positive dyadic coping would show higher correlations with relationship satisfaction than would the two reciprocity indices. This was confirmed in part in our analyses: Whereas women's equity index proved to correlate significantly in a negative way with their own and their partners' relationship satisfaction in all three cohorts, men's equity index had significant negative correlations with their own and their partners' relationships satisfaction only in cohort 1. Reciprocity indices showed lower correlations throughout, as expected. Concerning negative dyadic coping, men's equity index correlated significantly in a negative way with both their own and their partners' relationship satisfaction, as did women's equity index with the exception of cohort 3, where we found no significant correlation with partners' relationship satisfaction. Here again, as expected, correlations were consistently higher than those between reciprocity indices and relationship satisfaction.

Originating from these findings, we hypothesized in a second step that equity (i.e., perceived equal contributions) would prove to be more important for relationship satisfaction than reciprocity (i.e., self-reported investment of both partners). In our analyses, we accounted for the non-independence of couples' data by applying the actor-partner-interdependence model, enabling to highlight intradyadic effects. For both positive and

negative dyadic coping, we found our hypotheses confirmed. Both equity indices were negative predictors for relationship satisfaction, showing highly significant actor and partner effects, whereas the reciprocity indices did not reveal any significant relation, with the exception of the reciprocity index of perceived negative dyadic coping which had a significant effect on women's relationship satisfaction. That is, it is important how partners perceive contributions and not how they differ in their self-reported contributions.

In the second hypotheses, we assumed that equity indices of both positive and negative dyadic coping would have significant effects on relationship satisfaction. Our results clearly speak for the importance of perceived equity between support receipt and support providing for relationship satisfaction. Moreover, the perception of an intrapersonal balance of giving and taking support not only matters for people's own relationship satisfaction, but it also influences their partners' relationship satisfaction. We believe that the perceived equity facilitates an unencumbered dyadic interaction in intimate partnerships. Besides, according to equity theory (Hatfield & Rapson, 2011), perception of an inequitable distribution of support can cause distress in a person which is likely to crossover onto their partner and burden the relationship. It is therefore not surprising that one partner's perception of equity can have both actor and partner effects on relationship satisfaction as we found them in our study. We must draw attention to the fact however, that our findings are based on an individual and subjective perception, not only of intrapersonal equity but also of relationship satisfaction. The strong associations between equity indices and relationship satisfaction certainly come about not least because they are all predicated on subjective assessments: Whereas the equity index is computed out of the data by one person, the reciprocity index is generated from two persons' data.

The third part of our study examined whether the significant associations between equity indices and relationship satisfaction would be detected in all age groups. We therefore undertook multigroup analyses to test our baseline model in each of the three cohorts.

Systematic step by step model constraints of regression weights lead us to the best model fit. We found that for positive dyadic coping, the path between women's equity index and women's relationship satisfaction constrained to invariance across all groups provided the best model. This means that in all three age groups, how women perceive the difference between their own positive support provision and the received positive support by their partner predicts their relationship satisfaction. Furthermore, women's equity index proved to predict men's relationship satisfaction in cohort 2 and 3, but not in cohort 1. A possible explanation for the lacking partner effect in cohort 1 could be the shorter partnership duration (M = 4.66 years, SD = 3.53) in comparison with cohort 2 (M = 18.26, SD = 9.60) and cohort 3 (M = 42.26 , SD = 12.04). Equity effects in intimate relationships are often associated with increased feelings of self-esteem, positive mood (Williamson & Clark, 1989) and increased levels of relationship commitment (Sprecher, 1988). It could well be that those associations grow with time and that long-term partners show an increased awareness for the satisfaction of their partners. Furthermore, discrepancy of positive dyadic coping revealed significant partner effects for men's equity index on their partners' relationship satisfaction in cohorts 1 and 3, as well as a significant actor effect in cohort 1. There was only one significant effect of reciprocity index of own positive dyadic coping on women's relationship satisfaction.

Regarding negative dyadic coping, the best model fit was accomplished by constraining both women's actor and partner effects between equity index and relationship satisfaction to invariance across groups. So, in all three age cohorts, women's equity index proved to be a relevant predictor for their own relationship satisfaction as well as for their partners'. Furthermore, men's equity index was a significant predictor for men's relationship satisfaction in all three cohorts and for women's relationship satisfaction in cohort 2 and 3. Reciprocity indices of negative dyadic coping had no significant effects on relationship satisfaction.

The prominent role of women's perceived equity in couples' relationship satisfaction does not come as a surprise. Davila, Bradbury, Cohan, and Tochluk (1997) were able to strengthen prior findings that even low levels of dysphoria in women had considerable effects on marital stress generation. Men's assessment of their relationship satisfaction depending on their partners' perception of equity – as found in our study – substantiates these findings and are in line with previous research on stress crossover effects, which found that women's stress levels significantly influenced their own and their partners' relationship satisfaction (Neff & Karney, 2007).

In their study on marital equity over the family life cycle, Feeney, Peterson and Noller (1994) pointed out the necessity to analyze the link between partners' perceived equity and their relationship satisfaction in the context of life-cycles. We made a step towards this demand by comparing the assumed associations of our models in three age groups of couples, and therewith taking into account different life-span development phases.

We believe that our study has strengthened findings on the importance of intradyadic support perception and its implications on relationship satisfaction. Nevertheless, our study does have limitations. A major caveat of our study refers to the fact that our data is cross-sectional. Although we have gained some interesting insight with examining our hypothesized associations between discrepancy measures and relationship satisfaction in three different age groups, it would of course be of high relevance to analyze couples' longitudinal data. Only then, would we be able report actual causal relations between the variables. Furthermore, our measures build on subjective assessments, and although these measures are acknowledged in research on couples' social support (Acitelli & Antonucci, 1994; Gmelch & Bodenmann, 2007; Sprecher, 2001), it would be interesting to include an additional perspective on our findings, for example by incorporating behavioral data.

4.3 Long-Term Couples' Commitment, Relationship Satisfaction and Dyadic Coping – A Mediation Analysis[3]

4.3.1 Introduction

Interdependence theory (Thibaut & Kelley, 1959) suggests that partners are dependent on one another reciprocally inasmuch as the partners fulfill their respective needs. It is this mutual need for "instrumental support, affection, sexual fulfillment, and emotional closeness" (Rusbult & Buunk, 1993, p. 179) which intensifies intimate partners' dependence and nurtures their relationship satisfaction. However, the authors make a distinction between levels of satisfaction and levels of dependence: the former stands for high levels of appreciation of the relationship conditions and for valuing partners' positive and need-fulfilling behavior. The latter reflects a relationship which is primarily based on the need-fulfillment. The authors expand the interdependence-theory by introducing commitment and formulating the *Investment Model of Commitment*. This model suggests that "dependence is subjectively represented by feelings of commitment" (Rusbult, Drigotas & Verette, 1994, p. 119). Thus, whenever couples reach the level beyond the individual need-fulfillment, they may feel a satisfaction that may emerge not only from their own rewards but also from their partner's rewards and need-fulfillment.

In an intimate relationship, relational commitment arises from previous and existing experiences with partnership dependence (Rusbult, 1980), and functions as a trend-setter for further directions in the partners' interdependence-behavior (Tran & Simpson, 2009). Commitment includes the long-term perspective to enter and sustain an intimate relationship (Frank & Brandstätter, 2002; Sternberg, 1986; Wieselquist, Rusbult, Foster, & Agnew, 1999). Thus, due to an ongoing relationship-commitment which is kept up by the dependence on and the need for relationship satisfaction, intimate partners have a particularly high interest in

[3] See Landis et al. (submitted) for a similar version of this chapter.

applying a wide range of pro-relationship behaviors. Rusbult et al. (1994) define commitment as a "macromotive" (p.123) for partnership which triggers pro-relationship behavior. In line with these findings, Sternberg (1986) brings up the decision/commitment component, which enables couples to survive in their relationship in difficult times by consciously investing into the relationship in order to rise to their original level of commitment. This conscious element in commitment also fosters relationship maintenance tendencies which sustain or restore the relationship satisfaction level. For instance, highly committed individuals are less inclined to retaliate against their intimate partners' provocative behavior and more prepared to forgive negative acts than less committed individuals (Finkel, Rusbult, Kumashiro, & Hannon, 2002). According to the authors, strongly committed individuals have a stronger sense of "we-ness" and consciously pursue the objective of a long-term relationship. They are therefore inclined to "develop patterns of reciprocal pro-relationship behavior" (p. 96).

Important prerequisites for the development of a stable commitment are lack of interest in alternatives, increase in investment and a positive relationship outcome (Le & Agnew, 2003, Ramirez, 2008; Rusbult & Buunk, 1993). At the same time, people who are highly committed are more likely to accommodate and to value their partner's interests and respond to their need in form of empathic, supportive behavior (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). Summing up, when few relationship alternatives exist, and intimate partners feel that the satisfaction with their intimate relationship gives them a reason to keep up investment, relational commitment leads to increased dependence, fostering a wide range of pro-relationship behavior on the one hand and relationship satisfaction on the other hand. Accordingly, the higher the commitment, the more stable and satisfactory the relationship, and the higher the partners' willingness to intensify their relational maintenance efforts for mutual adjustment (Rusbult, 1983; Schneewind & Wunderer, 2003).

These interactions and interdependencies result in a reinforcing loop in which commitment can function as both predictor and criterion (see Figure 10).

Based on findings by Ogolsky (2009), we decided to investigate a direction of the association between commitment and pro-relationship behavior which Ogolsky called the "motivational model". This model suggests, that in long-term relationships, commitment can function as a predictor and lead to increased perceptions of pro-relationship behavior.

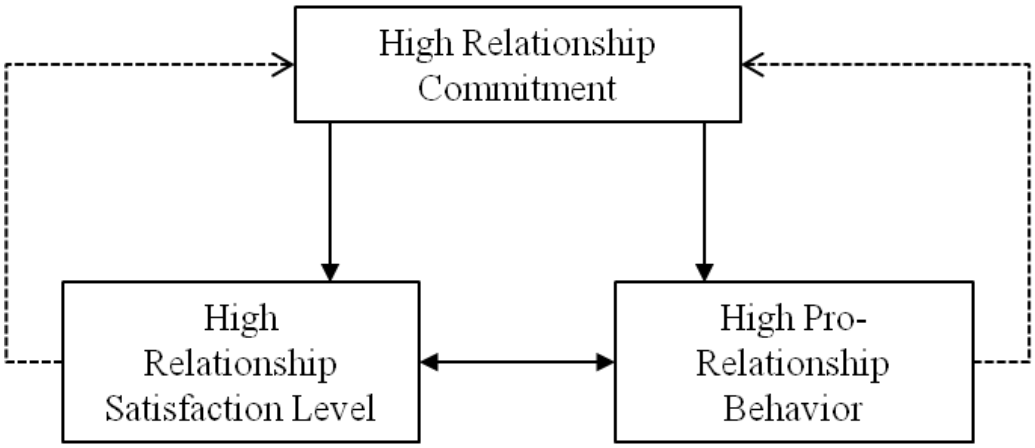

Figure 10. The reinforcing loop model of relationship commitment, based on Rusbult's Investment Model of Commitment (1983).

Dyadic Coping: A Form of Pro-Relationship Behavior.

Relational maintenance stands for recurring dynamic affinity-enhancing activities that intimate partners undertake to keep their relationship on a satisfactory level (Bell, Daly, & Gonzalez, 1987) and is inherently connected to intimate relational constructs such as partnership-satisfaction, -stability, and commitment (Canary & Stafford, 1994). According to Bell et al. (1987), typical pro-relationship processes include – among other – altruism, listening, optimism, sensitivity, supportiveness and verbal affection. These constructs account for some of the major characteristics of dyadic coping (for more details on dyadic coping, see Bodenmann, 1995; 2005). Positive supportive dyadic coping for example is defined as a

partner's supportive reactions to the other partner's stress signals, such as empathic understanding, showing solidarity, or encouraging, (Bodenmann, 2005). Supportive dyadic coping thus unites precisely those aspects of pro-relationship tendencies that define one partner's efforts to appease the other partner's stress by assisting her or him in their coping efforts through providing emotional and problem-focused support (Meuwly, Bodenmann, Germann, Bradbury, Ditzen, & Heinrichs, 2012). Negative dyadic coping on the other hand can be seen as corresponding to what Rusbult and Zembrodt (1983) qualify a neglect behavior (i.e., not valuing or appreciating the partner, criticizing the partner, or ignoring them in times of dissatisfaction). In our study, we use common dyadic coping, which is a sub-form of positive dyadic coping (Bodenmann, Charvoz, Widmer, & Bradbury, 2004). It describes a common process which involves both partners reciprocally, including joint appraisals, feedback, and joint problem management (Lazarus, 1999).

Research has provided evidence for a positive connection between levels of commitment and pro-relationship behavior (Reis & Collins, 2000; Van Lange, Agnew, Harinck, & Steemers,1997; Van Lange, Rusbult, Drigotas, Arriaga, & Witcher, 1997) on the one hand, and dyadic coping and relationship satisfaction on the other hand (Bodenmann & Cina, 2005; Bodenmann, Pihet, & Kayser, 2006; Bodenmann, Meuwly, & Kayser, 2011; Herzberg, 2013; Papp & Witt, 2010; Wunderer & Schneewind, 2008). In line with these findings we speculate that commitment brings forth the willingness to positively cope dyadically. In the present study, our focus lies on conjoint or common dyadic coping, where intimate partners manage a situation by joining their coping efforts. It is thus a conjoint effort made by both partners to be responsive to each other's stress reactions and to resolve upcoming problems as a couple.

The specification of this variable is essential as it takes into account the non-independence of couples' data and, hence, fulfills an important prerequisite for our

methodological approach which models intimate partners' conjoint coping as a common fate factor (Ledermann et al., 2010; Ledermann & Kenny, 2011).

The present study

In this study, we suggest that commitment predicts pro-relationship in form of common dyadic coping and that this association is mediated by relationship satisfaction. High commitment was found to trigger a wide range of relationship-favorable behaviors in individual (Rusbult, Olsen, Davis, & Hannon, 2001; Rusbult et al., 1991; VanLange et al., 1997), as well as in dyadic analyses (Weigel & Ballard-Reisch, 2008). Therefore, we believe that relationship commitment can function as a starting point in a relationship and that many behavior patterns within an intimate partnership are influenced by it. From this premise, we intended to demonstrate that intimate couples who are highly committed to their relationship, and who show particularly high levels of relationship satisfaction, also show high levels of common dyadic coping (Hypothesis 1).

Commitment, relationship satisfaction and dyadic coping are understood as between-dyad variables which reflect a common-fate construct and are relationship-referential (see Ledermann & Kenny, 2011), as both members of the dyad have to assess the variables and their assessment is not independent. Following the demand by Thompson-Hayes and Webb (2011) to treat commitment as a dyadic variable, we used the Common Fate Model (CFM; Ledermann & Macho, 2009) to calculate our hypothesized mediation model which stated that relationship satisfaction would mediate the association between relational commitment and common dyadic coping on a dyadic level (Hypothesis 2). The CFM is especially suited for this mediation analysis because it reflects the nature of between-dyads variables for which the dyad is the unit of analysis. In this case, we were interested in assessing a variable from both partners while taking into account that their scores are not perfectly congruent.

In addition, as dyadic coping and commitment can also be understood as personal variables assessing individual behavior, we were particularly interested in understanding the mediation process on the level of dyad members, and we used the actor-partner-interdependence-mediation model (APIMeM; Ledermann & Bodenmann, 2006), an extension of the APIM, for further analyses. The APIMeM consists of two exogenous variables, and two endogenous variables which are linked by the two mediator variables. Its purpose is to show that significant associations can exist between exogenous variable and endogenous ones, between exogenous variables and potential mediators, and between the mediator and the endogenous variable (Ledermann & Bodenmann, 2006). Because of prior evidence for women's higher emotional involvement in their relationship (Anderson, Keltner, & John, 2003), and because of women's higher probability to transfer personal dysphoria onto marital stress (Davila, Bradbury, Cohan, & Tochluk, 1997), as well as due to their increased vigilance to fluctuations in their relationship (Nolen-Hoeksema & Jackson, 2001), we expected women's relationship satisfaction to also influence men's variables in our setting. In other words, we hypothesized that women's relationship satisfaction would be a stronger mediator between both partners' commitment and dyadic coping than men's (hypothesis 3).

4.2.2 Methods

Participants

A total of 368 intimate couples were recruited by means of newspaper articles and advertisements for this study. Participation criterion required couples to have been sharing an intimate relationship for at least one year at the time of survey. Couples were recruited in three different age-cohorts: 1) ranging from 20 to 35 years, 2) ranging from 40-55 years, and 3) ranging from 65-80 years. In this study, we had a special interest in examining couples with longer relationship durations, therefore we concentrated on cohorts 2 and 3 and on couples with minimal relationship duration of 10 years. Our dataset initially contained a total

of 246 dyads for cohorts 2 and 3. After exclusion due to missing data and relationship duration condition, our final sample included 201 dyads whose average relationship duration was M = 33.74 years (SD = 14.17), ranging from 10 to 60 years. The mean age for women was 57.97 (SD = 12.56), men's average age was 60.38 (SD = 12.30).

Measures

Cognitive and emotional commitment

As Rusbult and Buunk (1993) state, commitment includes "both cognitive and emotional components" (p. 180). Therefore the use of the ComSec (Bodenmann & Kessler, 2011, unpublished manuscript) with its subscales *emotional commitment* and *cognitive commitment* seemed highly appropriate to function as indicators of the latent construct *partnership commitment* (including both aspects, emotional and cognitive commitment). Couples rated two cognitive commitment items ("It is my goal to grow old together with my partner", and "It is my goal to make our partnership last forever") and two emotional commitment items (e.g., "It is my goal to be emotionally close to my partner", and "It is my goal to get fully involved emotionally with my partner") on a 7-point Likert scale ranging from 1 = "does not apply at all" to 7 = "is absolutely true"). Cronbach's α was .80 for women's commitment and .80 for men's commitment for the total score.

Relationship Satisfaction

We used the German version (Sander & Böcker, 1993) of the Relationships Assessment Scale (Hendrick, 1988). Couples rated their relationship satisfaction on seven items in a 5-point Likert format, ranging from 1 = "not at all" to 5 = "completely", example items being "How well does your partner meet your needs", and "To what extent has your

relationship met your original expectations", negative items 4 and 7 being reverse-score recoded. Cronbach's α was .89 for women's and .90 for men's scale.

Dyadic Coping

The Dyadic Coping Inventory (DCI, Bodenmann, 2008) is a self-report questionnaire based upon the systemic-transactional stress concept by Bodenmann (1997). It comprises items related to a) the expression of stress signals by one partner and b) the other partner's corresponding responsive reactions, namely as defined by supportive, negative and common dyadic coping, each of the forms being subdivided into problem- and emotion-focused support. It consists of 37 items that can be answered from 1 = "hardly ever" to 5 = "very often". Both partners answer the questionnaire individually – male and female questionnaires are identical in items but gender-adapted. The questionnaire consists of the following scales: 1) own stress communication (emotional, problem-oriented, four items), 2) own supportive dyadic coping (emotional, problem-oriented, delegated, seven items), 3) own negative dyadic coping (hostile, ambivalent, withdrawal, four items), 4) own evaluation of conjoint dyadic coping (satisfaction with dyadic coping, efficiency of dyadic coping, five items), 5) partner's stress communication (emotional, problem-oriented, four items,) , 6) partner's supportive dyadic coping (emotional, problem-oriented, delegated, seven items), 7) partner's negative dyadic coping (hostile, ambivalent, withdrawal, four items), and finally two items which evaluate the satisfaction with and the efficiency of the partner's coping support. Sum scores can be calculated for all above-mentioned scales. Additionally, by summarizing the scores for supportive dyadic coping, stress communication and negative dyadic coping (reversed polarity) the total score for dyadic coping for the 35 items ranges from 35 to 175 points.

For our study, we concentrated on three of the five items assessing the conjoint coping efforts, leaving out the two items with sexual connotations, and concentrating on those assessing mutual comforting and exchange of relevant information on the stress event (see

Bodenmann et al., 2004). We opted for these items as we had also decided to not include the items on sexual commitment of the ComSec, leaving out the sexual components in our study. This decision was based on factor analysis that we conducted for both variables, the rotated component matrix clearly distinguished the sexual items from the other items. Cronbach's α was .87 for the three items of women's assessment of common dyadic coping, and .90 for men's.

Data Analyses

In addition to correlational analyses which we performed with IBM SPSS Statistics (Version 20), we used IBM SPSS AMOS (Version 19; Arbuckle, 2009) to estimate the Common Fate Model (CFM, Figure 11; Ledermann & Kenny, 2011) as well as the Actor-Partner-Interdependence-Model of Mediation (APIMeM, Ledermann et al. 2011) as Structural Equation Models (SEM). While the common fate model integrates both partners' scores, displaying the associations between the latent dyadic constructs, the APIMeM takes into account the non-independent nature of dyadic data and uncovers interpersonal as well as intrapersonal associations between variables in distinguishable dyads.

4.2.3 Results

Table 8 lists means and standard deviations of the study variables. Women and men differed significantly in their appraisal of common dyadic coping efforts as well as in relationship satisfaction, women scoring lower in both variables. Commitment level did not differ significantly between partners. Furthermore, Table 8 lists correlations between men and women. We found medium to large correlations for the study variables, confirming our first hypothesis; Commitment correlated significantly with relationship satisfaction and with dyadic coping, showing medium positive correlation coefficients for within-subject effects.

Moreover, small to medium positive correlation coefficients were found for between-subject effects.

Table 8

Means, Standard Deviations, and Correlations

	Women		Men				Correlations					
							Common dyadic Coping		Commitment		Relationship satisfaction	
	M	SD	M	SD	*t*	*d*	actor effect	partner effect	actor effect	partner effect	actor effect	partner effect
Common dyadic coping	3.83	.86	4.02	.77	3.16**	-.23	.46**		.39**	.18*	.53**	.45**
Commitment	6.42	.69	6.32	.80	1.59	.14	.41**	.25**	.27**		.62**	.32**
Relationship satisfaction	4.30	.53	4.41	.51	3.24**	-.21	.56**	.42**	.55**	.30**	.62**	

Note. Range for common dyadic coping: 1-5, range for commitment: 1-7, range for relationship satisfaction 1-5. *M* = mean, *SD* = standard deviations, *t* = t-value, *d* = Cohen's d, *N* = 201 dyads; * $p < .05$, ** $p < .01$. Correlations between the same construct across partners are depicted on the main diagonal of the correlation table; Correlations of women's variables with their own (actor) and their partner's (partner) scores are depicted below the main diagonal, correlations of men's scores with their own (actor) and their partner's (partner) scores above the main diagonal).

The common fate model

The CFM analysis uses scores from both dyad members and integrates them into the reflective construct. In this model, latent dyadic variables are defined by both husbands' and wives' indicator scores on the same variable (in our model commitment, dyadic coping and relationship satisfaction). The CFM states that both members of the dyad are influenced by a shared latent construct that affects both, and is especially appropriate in the case of dyad members assessing a variable that expresses their common behavior. In this study, the items assessing common dyadic coping fully meet this criterion, as they render the spouses' assessment of their joint efforts to cope with stress affecting them as a couple. Example items are "We seriously consider the problem and analyze what needs to be done", or "We help each other to reconsider the problem in a new light". The same prerequisite criterion is met by relationship satisfaction. The variable is per se non-independent of micro- and macrocontextual processes affecting both partners (see Bradbury, Fincham, & Beach, 2000, for an overview on determinants of marital satisfaction), and for relationship commitment. According to Ledermann and Macho (2009), three basic assumptions must be met in order to choose the common fate mediation model for data analysis: First, the dyad-members' data are influenced by a latent reflective variable. Second, there is evidence for mediation on the dyadic level, and third, husbands' and wives' scores are true indicators of the latent constructs. In our study these assumptions can be made: commitment and relationship satisfaction are variables that qualify the intimate relationship and are common dyadic variables which influence both partners, respectively. Furthermore, dyadic coping – specifically the items assessing common dyadic coping – is a prime example of a dyadic construct which affects both partners and which renders the dyad-members assessment of their dyadic behavior (see chapter on measurements).

To test our second hypothesis of mediation on a dyadic level, we calculated the CFM. The model (see Figure 11) showed a good fit with Chi-square statistics of $\chi^2(3) = .591$, $p =$

.898, the Comparative Fit Index (CFI) = 1.000 and Root Mean Square Error of Approximation (RMSEA) <.001. Additionally, bootstrap analyses which were also used to test the indirect effect between the two latent variables revealed that the model showed an excellent fit to the data (Bollen-Stine bootstrap *p*-value of .908; if Bollen-Stine bootstrap $p < .05$, model is rejected, Bollen & Stine, 1992). Both effects from commitment to relationship satisfaction and from relationship satisfaction to common dyadic coping were significant. Moreover, the indirect effect proved to be significant, whereas the direct effect from commitment on common dyadic coping became non-significant. These results suggest that the association between intimate couples' relationship commitment and their common dyadic coping performance is fully mediated by their relationship satisfaction, which we stated in our hypothesis. Commitment explained 57% of relationship satisfaction's variance, and both commitment and relationship satisfaction accounted for a total of 70% of the variance in common dyadic coping.

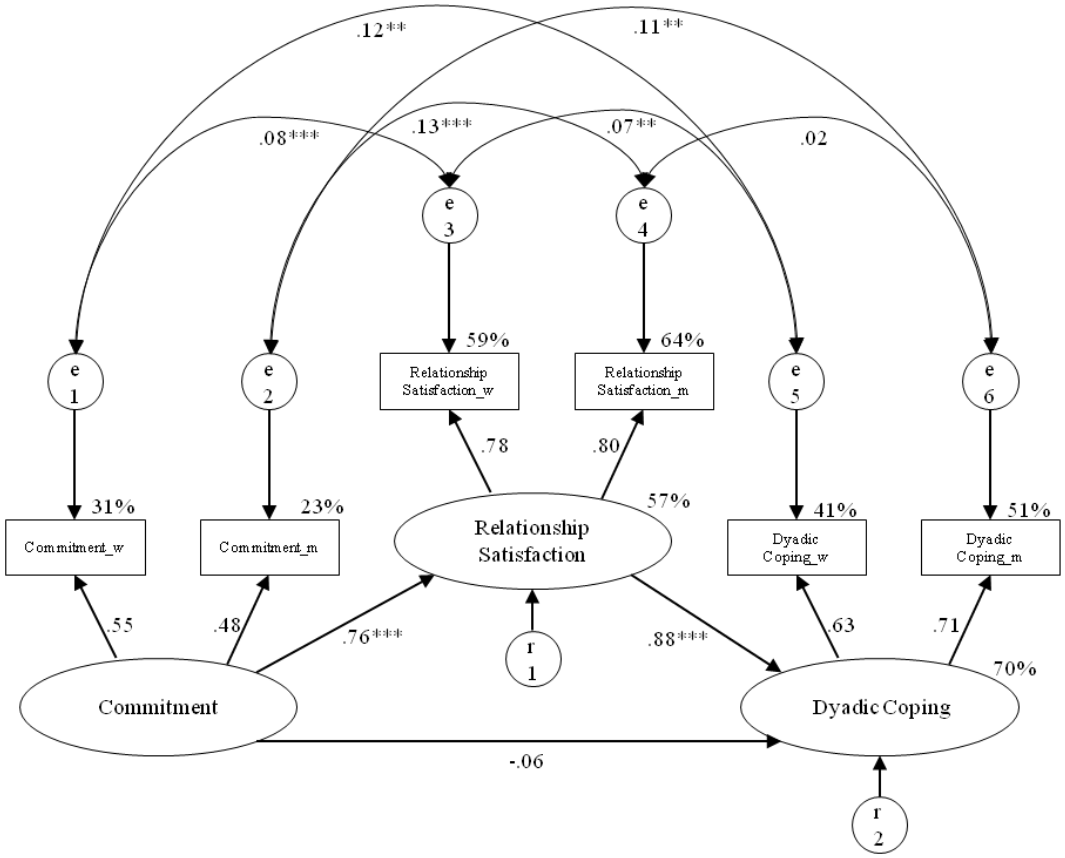

Figure 11. The common fate mediation model with standardized coefficients testing the association between commitment, relationship satisfaction and dyadic coping. ComSec = Cognitive and Emotional Commitment, RAS = Relationship Satisfaction Questionnaire, DC = Dyadic Coping Inventory, w = women; m = men. Percentages denote explained variances. * = $p < .05$, ** = $p < .01$, *** = $p < .001$.

The actor partner mediation model

For our third hypothesis, we calculated an APIMeM. In order to have the most parsimonious model, we used a stepwise modeling procedure. In a first step, we estimated the saturated model, that is: Direct paths of exogenous variables to mediators and to endogenous variables as well as the mediation paths were included to the model. Within this model, none of the direct paths between commitment (exogenous variable) and dyadic coping (endogenous variable) was found to be significant. This led us to estimate three additional models: i) a model without direct partner effects of commitment on dyadic coping, ii) a model without direct actor effects of commitment on dyadic coping, and iii) a model without any (actor or partner) effect of commtiment on dyadic coping. The model without the direct partner effects (see Figure 12) showed the best fit, $\chi^2(2) = 2.002$, $p = .368$; CFI = 1.000; RMSEA = <.002. To be able to fully interpret the patterns of this model and to test the mediating effects, we performed the Sobel test (1982) to test the indirect effects between all variables (see Table 9).

Testing the indirect effects

Six of the eight indirect effects were significant (see Table 9). Both men's and women's relationship satisfaction mediates the association between their own commitment and their own dyadic coping (actor effects of mediation). Women's relationship satisfaction proved to significantly mediate between all indirect exogenous-endogenous paths in the model, a finding which supports our third hypothesis. In other words, women's relationship satisfaction partially mediates between women's commitment and women's dyadic coping, furthermore it mediates between women's commitment and men's dyadic coping, between men's own commitment and women's dyadic coping, and even between men's commitment and men's dyadic coping, although this latter mediational effect was weaker than the mediation through men's relationship satisfaction. Men's relationship satisfaction partially

mediates between their own commitment and their own dyadic coping, and between women's commitment and men's dyadic coping, but not between women's commitment and women's dyadic coping and not between their own commitment and women's dyadic coping.

Table 9

Mediated effects for actor partner interdependence mediation model.

	Estimate	*SE*		
Effect EX→Med→EN	a x b	a x b	*z*	*p*
ComSecw→RASw→DCw	.26	.06	4.22	0.000
ComSecw→RASw→DCm	.14	.04	3.04	0.002
ComSecw→RASm→DCw	.02	.02	1.44	0.151
ComSecw→RASm→DCm	.05	.02	2.12	0.034
ComSecm→RASw→DCw	.07	.03	2.40	0.016
ComSecm→RASw→DCm	.04	.02	2.11	0.035
ComSecm→RASm→DCw	.07	.05	1.64	0.101
ComSecm→RASm→DCm	.15	.05	3.01	0.003

Note. EX: exogenous variable; *Med:* Mediator; *EN:* endogenous variable*;* ComSec = cognitive and emotional commitment; RAS = relationship satisfaction; DC = dyadic coping; (a x b) = indirect effect consisting of 2 direct effects a and b; w = women; m = men; *SE* = standard error; *z* = z-scores; *p* = level of significance. Women's and men's commitment as independent variables, women's and men's relationship satisfaction as mediator variables, and women's and men's assessment of their common dyadic coping efforts as outcome variable.

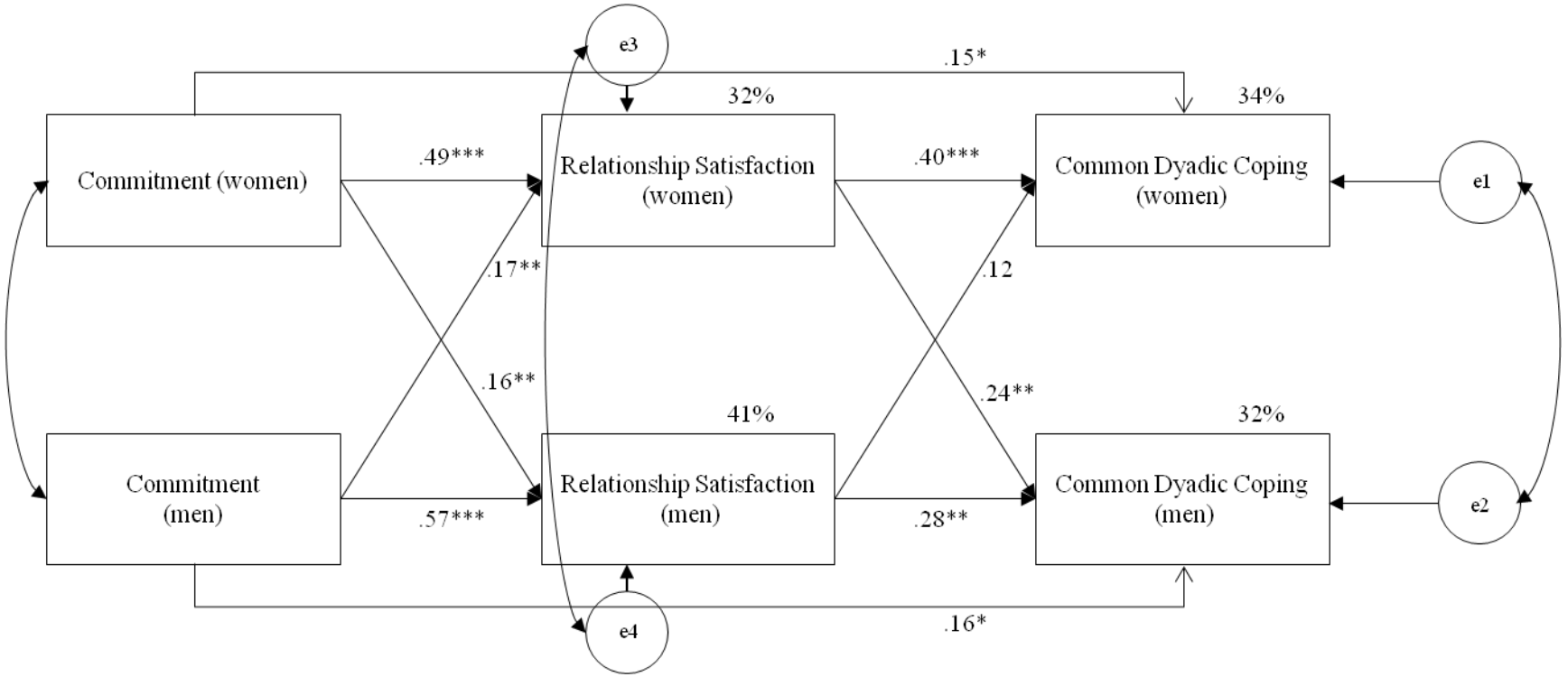

Figure 12. Actor-partner interdependence mediation model with commitment as endogenous variable, relationship satisfaction as mediator, and common dyadic coping as outcome variable. *e1* to *e4* = residuals. Single-headed arrows = predictive paths, double-headed arrows = correlated variables. Coefficients represent standardized regression coefficients; percentages refer to amount of explained variances. *** = $p < .001$, ** = $p < .01$, * = $p < .05$.

4.3.4 Discussion

The aim of our study was to explore the association between relationship commitment, relationship satisfaction and common dyadic coping in the realm of dyadic analyses, accounting for non-independence of distinguishable dyads' data. Our data of 201 intimate couples, with a relationship duration of at least 10 years, revealed that women reported a significantly lower level of common dyadic coping than men and that their relationship satisfaction was significantly lower than men's relationship satisfaction. Differences were significant but we must note that the levels – particularly the relationship satisfaction scores – were high on average, indicating an overall satisfied study sample. Men and women did not differ significantly in their levels of commitment.

Before examining the mediation process, we conducted correlational analyses with our study variables which revealed that higher levels of relationship commitment correlated significantly with both higher levels of relationship satisfaction and higher levels of common dyadic coping. Not only did we find significant actor effects between these variables, we also found significant partner effects between all variables. These results were a promising hint as to our hypothesised associations between the variables (Hypothesis 1) as well as a confirmation of non-independence of dyadic data.

In a second step, we conducted an analysis, using the common fate mediation model, where we looked at how strongly the correlations between both partners' manifest indicators could be attributed to the common dyadic latent variable, i.e., the common fate, and whether relationship satisfaction would mediate the association between the two latent constructs of commitment and dyadic coping. This model confirmed that relationship satisfaction fully mediated the association between intimate partners' cognitive and emotional commitment and their common dyadic coping. We found evidence in line with previous research findings, confirming the association between high levels of commitment and high relationship

satisfaction (Acker & Davis, 1992; Lemieux & Hale, 1999). Our results support findings of relationship satisfaction's strong association with social support (Røsand, Slinning, Eberhard-Gran, Røysamb, & Tambs, 2012), and fostering the will to invest into the relationship (Wieselquist et al., 1999).

We then continued our analyses by using the APIMeM (Ledermann et al., 2011), which enabled us to thouroughly explore the role of relationship satisfaction as a hypothesised mediator between the exogenous variable of relationship commitment and the endogenous variable of assessed common dyadic coping on the level of the dyad members. Mediation analysis revealed classical actor-actor mediations; Women's relationship satisfaction partially mediated the association between their commitment and their common dyadic coping, and men's relationship satisfaction partially mediated the association between their commitment and their assessment of common dyadic coping. This latter association was mediated by women's relationship satisfaction too. Based on findings by Davila et al. (1997), we assume that women's relationship satisfaction plays such a significant role in the mediating process between men's commitment and dyadic coping, because of the prominent effect that women's affect has on relationship functioning. The authors found direct influence of women's dysphoria on their own as well as on their partners' social support behavior. In our study, direct, indirect, and mediating effects of women's relationship satisfaction on dyadic coping behavior substantiate these findings.

Besides the significant insight the analysis of our data provided, we must allude to some limitations. An important caveat is that due to the cross-sectional character of our data, our analyses cannot confirm a definite causality of our variables. Based on our considerations which lead us to our model of the reinforcing role of commitment, we are convinced that commitment plays a major role in intimate relationships and – encouraged by our findings – especially in predicting intimate couples' pro-relationship behavior. Because commitment has

proven to also function as an endogeneous variable, we would like to emphasize that in the present study, we fully concentrated on one specific aspect of the potential processes between relationship variables of commitment, relationship satisfaction and dyadic coping. The direction of the hypothesized paths in our models are fully in line with the "cyclical growth" between dependence, commitment, and investments in long-term intimate relationships (Rusbult et al., 2001, p. 376).

Furthermore, we opted for very specific items of dyadic coping, rendering the true common aspect of items that are being assessed by both dyad members. We did this to take adequate account of the dyadic analysis level of the common fate model. However, to expand and consolidate our findings, further analyses should examine to which extent they apply to the items of supportive dyadic coping and even on negative dyadic coping on the level of dyad members or to extend the present research to the items of common dyadic coping concerning sexual/intimate behavior. It could then be of high interest to include the sexual commitment items of the Comsec, which we ommited in our study. Besides these limitations, we believe that we have gained interesting insight into the complex mechanisms that connect variables of intimate relationship; Much of previous research has concentrated on individual analysis of commitment (Rusbult, Johnson, & Morrow, 1986; Slotter et al., 2012), relationship satisfaction and also on partners' individually assessed pro-relationship efforts (Dainton & Aylor, 2002; Rabby, 2007) so far. Therefore, this study contributes an important aspect as it takes into account dyadic analysis, and treating intimate couples as one entity on the one hand, and looking in depth at non-independent processes on the level of dyad members.

5 General Discussion

The central aim underlying the present thesis was to gain new insights on the mechanisms of intradyadic social support and its association with mainly older couples' relationship satisfaction in long-term relationships. Thereby, the focus was set on dyadic coping which was assumed to have a predictive power of men's and women's relationship satisfaction (studies 1 and 2) and which was hypothesized to be influenced by commitment in highly satisfied long-term relationships (study 3). In focusing on intimate partners aged 65 and over on the one hand, or on long-term relationships of a least 10 years on the other hand, the studies in this thesis attempt to consolidate, and particularly, to complement the current state of research on heterosexual couples' mutual support within their partnerships.

The following sections of the next chapter will shortly reflect the contents and results of the individual studies. The two last sub-chapters discuss the overall findings and insights gained from this thesis, and present an outlook on prospective approaches to complement research on dyadic social support.

5.1 Summary and Discussion of Study Results

5.1.1 Individual perceptions of partners' coping efforts matter for older husbands' and wives' relationship satisfaction

The hypothesized positive association between perceived supportive dyadic coping and own relationship satisfaction was confirmed in study 1. It addressed the issue of the possible associations between own and perceived dyadic coping behavior, as assessed by older married couples, and aimed at filling a research gap in considering coping processes with long-term relationships of older heterosexual couples. In line with previous research which had approached this subject with young and middle-aged couples (Bodenmann, 2005;

2008; Iafrate et al. 2012), study 1 found significant correlations between husbands' and wives' own supportive dyadic coping and the relationship satisfaction of both partners, as well as between husbands' and wives' perceptions of the partners' supporting coping efforts and again the relationship satisfaction of both. Structural equation modeling revealed however, that only the way that wives and husbands perceive their partners' coping efforts really had a significant influence on their relationship satisfaction, whereas how they coped themselves proved to be negligible for their relationship satisfaction.

It was also not relevant for couples' relationship satisfaction whether the perception of partners' coping efforts were congruent with own assessments or not. The relationship satisfaction of men and women depended only on their subjective evaluation of how much positive support they got from their partners. Both correlational analyses and structural equation modelings revealed significant coefficients between one person's perception of how much support they get and their relationship satisfaction (actor effects), which reaffirms the outcomes of earlier studies on intimate couples' giving and taking social support, who found increased well-being in times of support receipt (Thomas, 2010). However, as Gleason et al., (2003) point out, this is predominantly the case whenever support is reciprocated, a condition which was met in our analyses. It appeared that the scores that rendered husbands' and wives' evaluations of own and perceived support were very close, meaning that the dyad members' receipt of support was indeed perceived as being reciprocated by both.

Summing up, our study showed that the receipt of social support by an intimate partner predicted relationship satisfaction in a significant way in a sample of older couples. Receiving, thus, seemed to matter more for the older individuals' satisfaction with their relationship than giving. But as noted earlier, couples in our sample seemed to perceive their balance between giving and taking social support as quite equitable, which seems to be an important precondition for support receipt to be beneficial (e.g. Gleason et al., 2003; Jung, 1990) . It would therefore be of high interest for further studies on the same subject to

compare a sample of older couples with one of middle-age couples, where research found evidence for more unreciprocated support provision than in older age, and to see whether receipt of social support remains the major predictor for relationship satisfaction across multigroup comparisons, and whether this association is connected to reciprocation of support.

5.1.2 Intrapersonal equity matters more for relationship satisfaction than interpersonal reciprocity, regardless of couples' age

The recognitions gained from study 1 led us to examine the importance of perception in dyadic support, which we did in study 2. That study took up the issue of subjectivity in perception of dyadic support and asked the question whether it was the perceived intrapersonal (equity) or interpersonal (reciprocity) balance of dyadic support that mattered for relationship satisfaction. The study expanded the first study's variables by additionally including negative dyadic coping into the analyses. Furthermore, a multigroup comparison of three age cohorts was undertaken to track the hypothesized invariance of the association between the indices and relationship satisfaction in all groups.

In order to catch intrapersonal equity, discrepancy scores of dyadic coping were used. The subjective assessment of own and perceived coping behaviors by partners formed the basis for the calculation of absolute differences which provided the equity index. The equity index thus renders the intrapersonal equity between giving and taking support, as it is perceived by each individual. This index was computed for both positive and negative dyadic coping items, resulting in an equity index of positive, and one of negative dyadic coping, and both of them in form of husbands' and wives' scores. In addition, the reciprocity index, which represents the interpersonal reciprocity, was the absolute difference of husbands' and wives' scores of their own supportive or negative dyadic coping (reciprocity index of own supportive or of own negative dyadic coping), and of perceived supportive and negative dyadic coping

(reciprocity index of perceived supportive and of perceived negative dyadic coping). The corresponding hypothesis was that intrapersonal equity would be more relevant for relationship satisfaction than interpersonal reciprocity, which was actually confirmed by the analyses in this study – for both husbands and wives and for all age cohorts. Interestingly, structural equation modeling revealed that for positive dyadic coping, women's equity index predicted both their own (actor effect) and their husband's relationship satisfaction (partner effect) in all cohorts, but in cohort 1, were the partner effect for positive coping was not significant. The associations between men's equity index of positive dyadic coping and relationship satisfaction were inconsistent. With negative dyadic coping, women's and men's equity indices predicted relationship satisfactions of both, revealing significant actor and partner effects but for cohort 1, where the partner effect from men's equity to women's relationship satisfaction became just not significant.

Summing up, the most reliable statement can be made about women's equity index – of both positive and negative dyadic coping – and its association with women's relationship satisfaction. This path was highly significant in our regression model and although other associations between equity indices and relationship satisfaction became significant, none of the other paths revealed such a consistent pattern across all age groups. Furthermore, women's equity index predicted men's satisfaction of all groups and for positive as well as negative dyadic coping (except for cohort 1 in positive dyadic coping).

As Gmelch and Bodenmann (2007) point out, the equity index can be considered a measure for the level of fairness in partnership. As in their study results on middle-aged couples, our study also found that this dimension is especially important for women to be satisfied in their relationship. Results are equally in line with previous studies regarding the effect of perceived equity on relationship satisfaction (Van Yperen & Buunk, 1990) or on marital intimacy (Larson, Hammond & Harper, 1998), as well as on perceived fairness of work-sharing and its relations to psychological well-being (e.g. Lennon & Rosenfield, 1994).

Interestingly, women's perception of equitable support in relationship was also found to influence men's relationship satisfaction when measured with an accuracy paradigm based on audiotape and videotape material (Cohen, Schulz, Weiss, & Waldinger, 2012). As in this latter study, the long-term project which furnished the data for study 2 of this thesis eventually assessed behavioral data of videotaped couples' interactions. In a further step, the consolidation of these behavioral data will be of great value for further studies in the field of couples support equity.

Still, many of the aforementioned authors allude to the caveat that the collected parameters result from subjective equity perceptions which – due to the nature of the subject – lie in the eye of the beholder. Nevertheless, the intrapersonal equity prevailed as predictor for relationship satisfaction, when compared with interpersonal reciprocity – as in study 2 of this thesis – or with interpersonal congruence (Landis et al., 2013, study 1 of this thesis), both being measures which include two individuals' assessments.

Of course, only longitudinal examinations of this data will be really indicative for the predictive power of perceived equity in relationship satisfaction. In addition to this first step towards more meaningful insights, it would be of high interest to incorporate a measure which enables couples to deliberately assess the perceived equity, such as the Hatfield Global Equity Measure (Hatfield, Utne, & Traupmann, 1979). In our study, we assessed equity by computing a measure of discrepancy, and couples were not aware that equity would be measured. The combination of a deliberate measure and of a computed one would bring more clarity into the dynamics of perceived and actual equity.

5.1.3 Commitment influences dyadic coping in highly satisfied relationships

Whereas studies 1 and 2 occurred in a logical sequence – the findings of the former triggering the analyses of the latter – the third study of this thesis adopts a different perspective on dyadic coping. Instead of considering dyadic coping as a predictive variable

for relationship satisfaction as in the two previous studies, in study 3, we hypothesized that commitment could be an influential key factor for prorelationship behaviors and as such, would strongly influence common dyadic coping in highly satisfied relationships.

Based on the findings by Canary and Stafford (1994) who claimed that relationship enhancing behavior is connected – among others – to relational commitment, we suggested that dyadic coping, per definition empathic, encouraging and supporting behavior between intimate partners (Bodenmann, 2005), can function as such a prorelationship effort, and should therefore inherently be connected to relational commitment. We assumed that especially in highly satisfied couples, cognitive and emotional commitment would influence common dyadic coping behavior. Therefore, a common fate model was designed, which confirmed that relationship satisfaction did indeed fully mediate the association between commitment and dyadic coping on a dyadic level of analysis. An additionally conducted actor-partner-interdependence-mediation model revealed that it was in fact women's relationship satisfaction that mediated the relationships between both women's and men's commitment and common dyadic coping. We suggested that the importance of women's relationship satisfaction for both partner's mediation between their commitment level and their dyadic coping efforts was due to a general finding that women's affect plays a major role for men to feel comfortable in their relationship (Davila et al., 1997). And also, because women are more relationship oriented than men (Chodorow, 1978; Diekman & Eagly, 2000; Prentice & Carranza, 2002), although we are aware that this latter argument is controversial (Umberson, Chen, House, Hopkins & Slater, 1996) in relationship research.

In order to unequivocally prove the association between commitment and common dyadic coping efforts, it would be useful to expand the analyses beyond highly committed dyads, and to include a control group of couples who are less committed to their partners. We believe that in that case, our mediation models would not withstand, which would speak in favour of our hypothesized models in study 3.

5.2 Overall Discussion

With regard to social support provided by one's partner, this thesis has come to the conclusion that older individuals' perception of their partners' provided support plays a major role for the individuals' relationship satisfaction. These results are in line with findings on perceived support available (Norris & Kaniasty, 1996; Sarason, Sarason & Pierce, 1996) and on its beneficial role for people's psychological and physical health (Uchino, 2004, 2009).

This thesis has furthermore provided evidence that perceived equity of social support in intimate relationships is very important for couples' relationship satisfaction. It has helped to contribute to the growing evidence that equity, as it is perceived in giving and taking social support by intimate partners (Rook, 1987; Antonucci & Akiyama, 1987), is a key factor for couples' satisfaction with their mutual social exchange in older age. Unlike earlier studies on the subject (Buunk & Van Yperen, 1990; Van Yperen & Buunk, 1990), study 2 of this thesis could not find significant cohort differences regarding the level of perceived equity. But then, the same applied to relationship satisfaction, which was high in all age groups.

These results contradict previous research's assumed age effects in the correlations between giving and taking dyadic support and relationship satisfaction. The associations thus seem to run into the same direction when comparing couples in different lifespan stages, but the underlying dynamics could well be a function of the respective life stage. Based on the findings from studies 1 and 2 in this thesis, further studies should merge the two main questions of those studies and examine whether the association between perceived social support (or taking social support) and relationship satisfaction is indeed stronger whenever social support is reciprocated. And if so, whether this association can stand up in samples of younger, middle-aged, and older couples.

According to Antonucci and Akiyama (1987), older people tend to consider reciprocity from a lifespan perspective. This means that the balance of giving and taking social support is being calculated on the basis of efforts that might have taken place many

years before, and that reciprocation of support given or received needs not necessarily occur simultaneously. This phenomenon, called the *support bank* (Antonucci, 1990), is known to happen primarily with parents who "deposit" social investment into this virtual account and who "withdraw" it at a later point in time. The same mechanism could apply to long-term relationships, and would explain why in some cases receiving more than giving at a certain point in time does not have detrimental effects on older peoples' satisfaction.

Lamb, Lee, and DeMaris (2003) speak of the *relationship effect* to describe how intimate couples' intradyadic support and care giving, as well as ongoing companionship in difficult situations is beneficial for partners' psychological well-being and physical health outcomes. Given the fact that the partner represents a primary source of comfort and appeasement in times of need (Johnson, 1983; Stoller & Earl, 1983), the highly important status of a satisfactory relationship for personal well-being does not come as a surprise. The psychologically protective effect of marriage might be a rather undisputed one (Gove, Hughes, Briggs Style, 1983; Haring-Hidore, Stock, Okun, & Witter, 1985; Liu & Umberson, 2008; Rohrer, Bernard, Zhang, Rasmussen, & Woroncow, 2008), but it does seem to gradually grow stronger over the life-span. As with age, people's social network decreases in size (Carstensen, 1992), and intimate confidants may become less, the partner's supporting role becomes increasingly important.

The present thesis aimed at finding parameters that make a good and long-lasting relationship. The combination of the three studies has resulted in a cyclical model (Figure 13) on the dynamics of dyadic social support, relationship commitment, and relationship satisfaction. Based on this model, and with reference to the title of the thesis, the conclusion can be made that beneficial mutual support in committed intimate partnerships is indeed a game of give and take, the aspect of perceived dyadic contributions on the one hand, and the emotional and cognitive commitment on the other hand, being crucial prerequisites for couples to feel satisfied with their relationships. According to Neff and Braody (2011),

couples who experienced moderately stressful challenges during the early stages of their relationships are apparently better skilled to cope with major life transitions in a later stage of their relationship. In other words, long-term couples' abilities to overcome problems by displaying effective joint coping capacities can be a result of a rather unintentional training that they were subjected to over time. This would suggest that good dyadic coping at a later stage of a long-term relationship does not only imply a good and healthy relationship but is also, for its part, a result of a life-time coping practice of the two partners. It would be interesting to verify this assumption with the dataset that was used for studies 2 and 3 and it is certainly a project that we will push forward in the course of this longitudinal project.

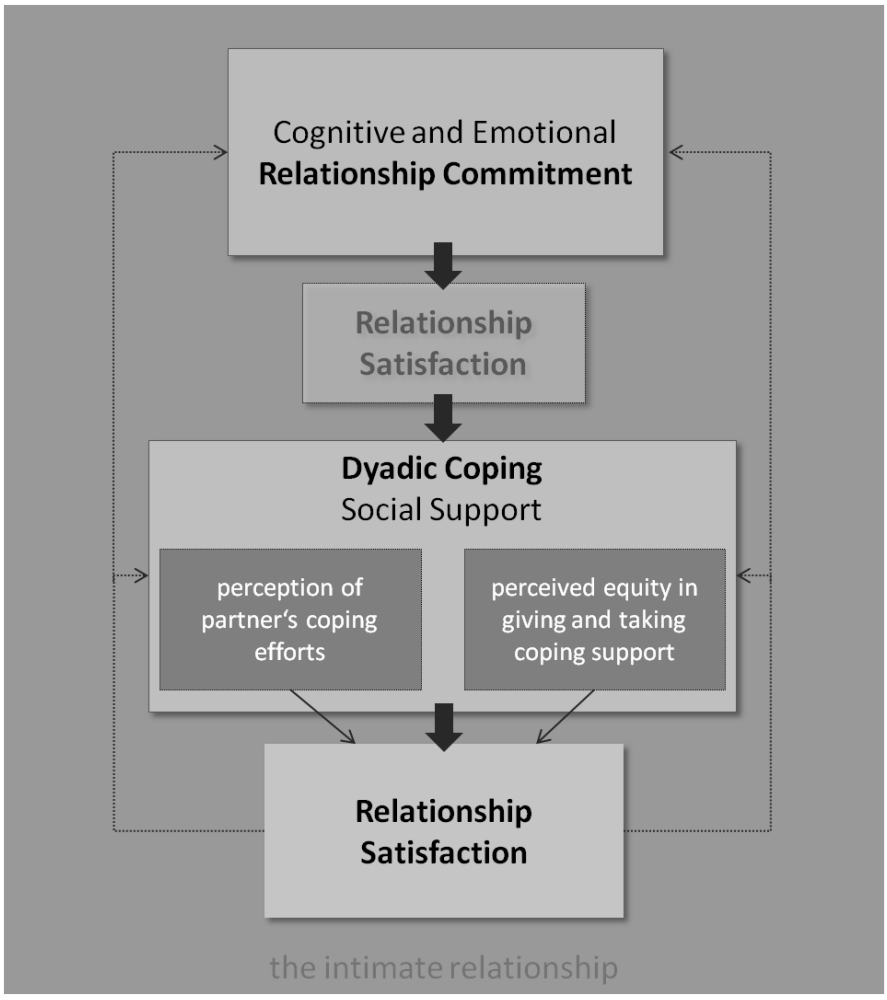

Figure 13. Graphic representation of the correlations between the variables of the present thesis.

5.3 Outlook and Concluding Remarks

This thesis contains studies based on cross sectional data. We are aware of the fact that the results reported here offer a snapshot of the facts at the moment of analysis, and that causal or relational associations between variables are to be expressed with caution. Still, we believe that with these studies, and especially with the ongoing work on the long-term project which studies 2 and 3 stem from, we lay the ground for further studies that can concentrate on the cause-and-effect associations between these variables. Dyadic coping is a construct that must be considered in the situative context. We believe that it is functionally adaptive, depending on the severity of stressful events that a couple is exposed to. Dyadic coping can be understood as supportive actions in daily interactions between intimate partners – as it is done in this thesis – were stress refers to daily hassles and to day-to-day changes of mood, or it can reflect the crucial coping strategies of a couple faced with serious and incisive life events (Berg & Upchurch, 2007; Gilbert, 1989).

This wide range of situation-related coping and support interactions, which the Dyadic Coping Inventory can detect, is a strength of this measure. At the same time, it is important to identify the stress context of couples when assessing their dyadic coping. It could be that some assumptions on the functionality of dyadic coping apply to very specific stress situations, and it is conceivable that the demands on partners‘ support are subject to other mechanisms in the context of high stress levels than in the context of daily hassles. Perceived equity in dyadic support, for example, could then not be sufficient to establish a feeling of satisfaction with partner support and with the relationship as such.

The same thoughts apply to commitment. It would be of great importance to examine whether commitment can keep its status in ongoing stressful times and whether it can sustain its influence on common dyadic coping even in times of uncertainty and common reorientations as a couple. The functional approach to a couples' common development over

time is therefore crucial to identify the dynamic processes that underlie the stabilization of relationship variables (Martin, Jäncke & Röcke, 2012).

Based on these considerations, the claim to increase the significance of the present results by applying longitudinal analyses should be complemented by two further aspects that would be worthwhile to include in future research on social support in intimate relationships.

First, although we took account of the interdependence of dyadic data, it has been shown that mainly individual aspects play a role for the prediction of dyadic variables such as relationship satisfaction and common dyadic coping. Both the individual perception of support by partners and of intrapersonal equity in giving and taking social support were individual parameters that had effects on both partners, depending on their constellation in the respective statistical model. In spite of methodologically elaborate techniques in dyadic analyses, we should not ignore that dyadic data methods incorporate data from two individuals. Individuality thus remains an important factor, even with dyadic data, and the very important aspect of intraindividual variability (Boker, 2001) should be worthwhile to be given more consideration in future research on couples. The structure of intraindividual variation can be predictive of interindividual differences: Such methodological approaches could reveal for example that a person shows a high degree of day to day variability in their use of positive and negative dyadic coping, and that this variability predicts the partner's perception on support received. Furthermore within-person variability could help to invalidate age differences, or at least explain interindividual differences in age groups in function of varying contexts (Nesselroade & Ram, 2004).

Furthermore, such approaches could be used to analyze longitudinal data over a short period of time, and the use of short time intervals could reveal exciting insights in dyadic interactions. One could imagine, for example, that short time intervals through one day would demonstrate fluctuations in the examined variable manifestations, and that finally, the latent outcome variable, which was considered as stable over time, is a result of a dynamic-adaptive

and context-dependent process of the manifest variables (see Boker & Martin, 2013, for more details).

To conclude, we hope that we have laid the groundwork for further research on beneficial support mechanism in intimate dyads across the lifespan, especially in long-term relationships, and with focus on older couples, and that we have succeeded in triggering a wide range of theoretical and methodological approaches worthwhile to pursue in this quest.

6 References

Acitelli. L., & Antonucci, T. (1994). Gender Differences in the link between marital support and satisfaction in older couples. *Journal of Personality and Social Psychology, 67(4),* 688-698.

Acitelli, L. K., & Badr, H. J. (2005). My illness or our illness? Attending to the relationship when one partner is ill. In T. A. Revenson, K. Kayser, & G. Bodenmann (Eds.*)*, *Couples coping with stress: Emerging perspectives on dyadic coping* (pp. 121–136). Washington, DC: American Psychological Association.

Acitelli, L. K., Kenny, D. A., & Weiner, D. (2001). The importance of similarity and understanding of partners' marital ideals to relationship satisfaction. *Personal Relationships, 8,* 167–185.

Acker, M., & Davis, M. H. (1992). Intimacy, passion and commitment in adult romantic relationships: A test of the triangular theory of love. *Journal of Social and Personal Relationships, 9,* 21-50.

Ackerman, R. A., Donnellan, M. B., & Kashy, D. A. (2011). Working with dyadic data in studies of emerging adulthood: Specific recommendations, general advice, and practical tips. In F. Fincham & M. Cui (Eds.), *Romantic relationships in emerging adulthood* (pp. 67-97). New York: Cambridge University Press.

Alferes, V. R., & Kenny, D. A. (2009). SPSS programs for the measurement of nonindependence in standard dyadic designs. *Behavior Research Methods, 41* (1), 47-54.

Amelang, M. & Schmidt-Atzert, L. (2006). *Psychologische Diagnostik und Intervention* (4., vollständig überarbeitete und erweiterte Aufl.). Heidelberg: Springer.

Anderson, C., Keltner, D., & John, O. P. (2003). Emotional convergence between people over time. *Journal of Personality and Social Psychology, 84,* 1054–1068.

Antonucci, T. C. (1990). Social supports and social relationships. In R. H. Binstock and L. K. George (Eds.), *The handbook of aging and the social sciences, 3rd Edition* (pp. 205-226). San Diego, CA: Academic Press, Inc.

Arbuckle, J. L. (2009). AMOS (Version 18/19) [Computer software]. Chicago: SPSS.

Arbuckle, J. L. (2009). *Amos 18 user's guide.* Crawfordville, FL: Amos Development Corporation.

Batson, C. D. (1998). Altruism and prosocial behavior. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology,* (4th ed., Vol. 2, pp. 282-316). New-York: McGraw-Hill.

Baucom, D. H., & Epstein, N. (1990). *Cognitive-behavioral marital therapy.* New York: Brunner/Mazel.

Baucom, D. H., Epstein, N., Rankin, L. A., & Burnett, C. K. (1996). Assessing relationship standards: The Inventory of Specific Relationship Standards. *Journal of Family Psychology, 10,* 72–88.

Baucom, D. H., Epstein, N., Sayers, S. L., & Sher, T. G. (1989). The role of cognitions in marital relationships: Definitional, methodological, and conceptual issues. *Journal of Consulting and Clinical Psychology, 57,* 31–38.

Bell, R. A., Daly, J. A., & Gonzalez, C. (1987). Affinity-maintenance in marriage and its relationship to women's marital satisfaction. *Journal of Marriage and the Family, 49,* 445-454.

Blanchard-Fields, F., Jahnke, H. C., & Camp, C. (1995). Age differences in problem-solving style: The role of emotional salience. *Psychology & Aging,* 10, 223-247

Berg, C. A., & Upchurch, R. (2007). A developmental-contextual model of couples coping with chronic illness across the adult life span. *Psychological Bulletin, 133,* 920-954.

Berscheid, E., & Ammazzalorso, H. (2001). Emotional experience in close relationships. In G. J. O. Fletcher & M. S. Clark (Eds.), *Blackwell handbook of social psychology:*

Interpersonal processes (pp. 308-330).Malden, MA: Blackwell.

Berscheid, E., & Lopes, J. (1997). A temporal model of relationship satisfaction and stability. In R. J. Sternberg & J. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 129-159). New York: Guilford Press.

Bodenmann, G. (1995). *Bewältigung von Stress in Partnerschaften. Der Einfluss von Belastungen auf die Qualität und Stabilität von Paarbeziehungen.* Bern: Huber.

Bodenmann, G. (1997). Dyadic coping - a systemic-transactional view of stress and coping among couples: Theory and empirical findings. *European Review of Applied Psychology, 47,* 137-140.

Bodenmann, G. (2000). *Stress und Coping bei Paaren*. Göttingen: Hogrefe.

Bodenmann, G. (2005). Dyadic coping and its significance for marital functioning. In T. Revenson, K. Kayser & G. Bodenmann (Eds.), *Couples coping with stress: Emerging perspectives on dyadic* coping. (pp.33-50). Washington, DC: American Psychological Association.

Bodenmann, G. (2008). Dyadic coping and the significance of this concept for prevention and therapy. *Zeitschrift für Gesundheitspsychologie, 16*(3):108-111.

Bodenmann, G. (2008). *Dyadisches Coping Inventar: Testmanual* [Dyadic Coping Inventory: Test manual]. Bern, Switzerland: Huber.

Bodenmann, G., Charvoz, L., Widmer, K. & Bradbury, T. N. (2004). Differences in individual and dyadic coping among low and high depressed, partially remitted, and nondepressed persons. *Journal of Psychopathology and Behavioral Assessment*, *26*(2), 75-85.

Bodenmann, G., & Cina, A. (2006). Stress and coping among stable-satisfied, stable-distressed and separated/divorced Swiss couples: A 5-year prospective longitudinal study. *Journal of Divorce and Remarriage, 44*, 71-89.

Bodenmann, G., Meuwly, N. & Kayser, K. (2011). Two conceptualizations of dyadic coping and their potential for predicting relationship quality and individual wellbeing. *European Psychologist, 16*, 255-266.

Bodenmann, G., Meyer, J., Ledermann, T., Binz, G., & Brunner, L. (2005). Partnerschaftszufriedenheit in Abhängigkeit der Ehedauer [Marital satisfaction according to the duration of marriage]. *Schweizerische Zeitschrift für Soziologie, 31*, 343-362.

Bodenmann, G. & Kessler, M. (2011). *Commitment in close relationships (Comsec).* Unpublished questionnaire. Zurich: University of Zurich.

Bodenmann, G., Pihet, S., & Kayser, K. (2006). The relationship between dyadic coping and marital quality: A 2-year longitudinal study. *Journal of Family Psychology, 20(3),* 485-493.

Bodenmann, G., & Widmer, K. (2000). Stressbewältigung im Alter: Ein Vergleich von Paaren jüngeren, mittleren und höheren Alters. *Zeitschrift für Gerontologie und Geriatrie, 33,* 217-228.

Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods & Research, 21,* 205-229.

Boker S. M. (2001). Differential structural equation models of intraindividual variability. In L. M. Collins & A. G. Sayer (Eds.), *New methods for the analysis of change* (pp. 5–27). American Psychological Association; Washington, D. C.

Boker, S. M. & Martin, M. (2013). On the equilibrium dynamics of meaning. In M. Edwards & R. MacCallum, (Eds).*Current issues in the theory and application of latent variable models* (pp. 241-252). New York: Taylor & Francis.

Bradbury, T., Fincham, F., & Beach, S. (2000). Research on the nature and determinants of marital satisfaction: A decade in a review. *Journal of Marriage and the Family, 62,* 964-980.

Burman, B. & Margolin, G. (1992). Analysis of the association between marital relationships and health problems. *Psychological Bulletin, 112*, 39-63.

Buunk, B. P. (2003). Affiliation, zwischenmenschliche Anziehung und enge Beziehungen. In W. Stroebe, K. Jonas & M. Hewstone (Hrsg.), *Sozialpsychologie, eine Einführung* (S. 415-447). Berlin: Springer-Verlag.

Buunk, B., & Van Yperen, N. (1991). Referential comparisons, relational comparisons, and exchange orientation: Their relation to marital satisfaction. *Personality and Social Psychology Bulletin, 17,* 709–717.

Byrne, B. M. (2004) Testing for multigroup invariance using AMOS graphics: A road less traveled. *Structural Equation Modeling, 11*, 272–300.

Canary, D. J., & Stafford, L., (1994). Maintaining relationships through strategic and routine interaction. In D. J. Canary and L. Stafford (Eds.), *Communication and relational maintenance*, New York: Academic Press.

Carstensen, L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Ageing, 7,* 331-338.

Chodorow, Nancy. (1978). *The Reproduction of Mothering*. Berkeley, CA: University of California Press.

Clark, M. S., & Mills, J. (1993). The difference between communal and exchange relationships: What it is and is not. *Personality and Social Psychology Bulletin, 19,* 684-691.

Clark, M. S., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology, 37,* 12-24.

Cohen, S., Schulz, M. S., Weiss, E., & Waldinger, R. J. (2012). Eye of the beholder: The individual and dyadic contributions of empathic accuracy and perceived empathic effort to relationship satisfaction. *Journal of Family Psychology*, *26*(2), 236-245.

Cohen, S. & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98* (2), 310-357.

Conger, R. D., Elder, G. H., Jr., Lorenz, F. O., Conger, K. J. Simons, R. L., Whitbeck, L. B., … Melby, J. N. (1990). Linking economic hardship to marital quality and instability. *Journal of Marriage and the Famliy, 52*(3), 643-656.

Conger, R. D., Rueter, M. A., & Elder, G. H., Jr. (1999). Couple resilience to economic pressure. *Journal of Personality and Social Psychology, 76*, 54–71.

Cramer, D., & Jowett, S. (2010). Perceived empathy, accurate empathy and relationship satisfaction in heterosexual couples. *Journal of Social and Personal Relationships, 27,* 327-349.

Cutrona, C. E., Russell, D. W.; Gardner, K. A. (2005). The relationship enhancement model of social support. In: Revenson, T. A., Kayser, K, & Bodenmann, G. (Eds.), *Couples coping with stress: Emerging perspectives on dyadic coping,* (pp. 73-95). Washington, DC, US: American Psychological Association.

Dainton, M. & Aylor, B. (2002). Routine and strategic maintenance efforts: Behavioral patterns,variations associated with relational length, and the prediction of relational characteristics.*Communication Monographs, 69,* 52–66.

Davila, J., Bradbury, T. N., Cohan, C. L., & Tochluk, S. (1997). Marital functioning and depressive symptoms: Evidence for a stress generation model. *Journal of Personality and Social Psychology, 73,* 849-861.

Debrot, A., Perrez, M., Cook, W. L. & Horn, A. B. (2012). Deeds matter: Daily enacted responsiveness and intimacy in couples' daily lives. *Journal of Family Psychology, 26*(4), 617-627.

DeMaris, A. (2010). The 20-year trajectory of marital quality in enduring marriages: Does equity matter? *Journal of Social and Personal Relationships, 27,* 449-471.

Dehle, C., Larsen, D. & Landers, J. E. (2001). Social support in marriage. *American Journal of Family Therapy, 29,* 307-324.

Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: Women and men of the past, present, and future. *Personality & Social Psychology Bulletin, 26*, 1171-1188.

Diener, E., Gohm, C., Suh, E., & Oishi, S. (2000). Similarity of the relation between marital status and subjective well-being across cultures. *Journal of Cross-Cultural Psychology, 31,* 419-436.

Dindia, K. (2000). Relational maintenance. In C. Hendrick & S. S. Hendrick (Eds.), *Close relationships: A sourcebook* (pp. 287–300). Thousand Oaks, CA: SAGE.

Don, B. P., Mickelson, K. D. and Barbee, A. P. (2013), Indirect support seeking and perceptions of spousal support: An examination of a reciprocal relationship. *Personal Relationships.*

Dunkel-Schetter, C., Feinstein, L., & Call, J. (1986). *UCLA Social Support Inventory*. Los Angeles: University of California.

Feeney, J. A., Noller, P., & Ward, C. (1997). Marital satisfaction and spousal interaction. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 160-189). NY: Guilford.

Feeney, J., Peterson, C., & Noller, P. (1994). Equity and marital satisfaction over the family life cycle. *Personal Relationships, 1*, 83-99.

Fehr, B. (1999). Laypeople's conceptions of commitment. *Journal of Personality and Social Psychology, 76*(1), 90-103.

Fehr, B. (2001). The status of theory and research on love and commitment. In G. J. O. Fletcher & M. S. Clark (Eds.), *Blackwell handbook of social psychology: Interpersonal processes* (pp. 359-387). Oxford: Blackwell.

Fingerman, K. L. & Charles, S. T. (2010). It takes two to tango: Why older people have the best relationships. *Current Directions in Psychological Science, 19,* 172-176.

Finkel, E. J., Rusbult, C. E., Kumashiro, M., & Hannon, P. A. (2002). Dealing with betrayal in close relationships: Does commitment promote forgiveness*? Journal of Personality and Social Psychology, 82,* 956-974.

Frank, E., & Brandstätter, V. (2002) Approach vs. avoidance: Different types of commitment in intimate relationships. *Journal of Personality and Social Psychology, 82,* 208-221.

Gagnon, M., Hersen, M,, Kabacoff, R., & Van Hasselt, V. (1999). Interpersonal and psychological correlates of marital dissatisfaction in late life: A review. *Clinical Psychology Review, 19*(3), 359-378.

Gilbert, K. R. (1989). Interactive grief and coping in the marital dyad. *Death Studies, 13,* 605-626.

Gleason, M. E. J., Iida, M., Bolger, N., & Shrout, P. E. (2003). Daily supportive equity in close relationships. *Personality and Social Psychology Bulletin, 29*(6), 1036-1045.

Gleason, M. E. J., Iida, M., Shrout, P. E. & Bolger, N. (2008). Receiving support as a mixed blessing: Evidence for dual effects of support on psychological outcomes. *Journal of Personality and Social Psychology, 94 (5),* 824-838.

Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s. *Journal of Marriage and the Family 52,* 818–831.

Gmelch, S., & Bodenmann, G. (2007). Dyadisches Coping in Selbst-und Fremdwahrnehmung als Prädiktor für Partnerschaftsqualität und Befinden. *Zeitschrift für Gesundheitspsychologie, 15(4),* 177-186

Gmelch, S., Bodenmann, G., Meuwly, N., Ledermann, T., Steffen-Sozinova, O., & Striegl, K. (2008). Dyadisches Coping Inventar (DCI): Ein Fragebogen zur Erfassung des partnerschaftlichen Umgangs mit Stress [Dyadic Coping Inventory (DCI): A questionnaire assessing dyadic coping in couples], *Zeitschrift für Familienforschung,*

20(2), 195-202.

Gottman, J. M. & Levenson, R. W. (2000). The timing of divorce: Predicting when a couple will divorce over a 14-year period. *Journal of Marriage and the Family, 62*, 737-745.

Gove, W.R., Hughes, M., & Briggs Style, C. (1983) Does marriage have positive effects on the psychological well-being of the individual? *Journal of Health and Social Behavior*, *24*, 122-131.

Hahlweg, K. (1996). *Fragebogen zur Partnerschaftsdiagnostik (FPD), Partnerschaftsfragebogen PFB, Problemliste PL und Fragebogen zur Lebensgeschichte und Partnerschaft FLP.* Göttingen: Hogrefe.

Hahlweg, K., Klann, N. & Hank, G. (1992). Zur Erfassung der Ehequalität: Ein Vergleich der "Dyadic Adjustment Scale" (DAS) und des "Partnerschaftsfragebogens" (PFB). *Diagnostica*, *38*(4), 312-327.

Hahlweg, K. & Richter, D. (2010). Prevention of marital instability and distress. Results of an 11-year longitudinal follow-up study. *Behaviour Research and Therapy*, *48*(5), 377-383.

Halford, W. K., Scott, J. L., & Smythe, J. (2000). Couples and coping with cancer: Helping each other through the night. In K. B. Schmaling & T. G. Sher (Eds.), *The psychology of couples and illness: Theory, research, & practice* (pp. 135-170). Washington, DC: American Psychological Association.

Haring-Hidore, M., Stock, W. A., Okun, M. A., & Witter, R. A. (1985).Marital status and subjective well-being: A research synthesis. *Journal of Marriage and the Family, 47,* 947–953.

Hatfield, E. (2009). Equity theory. In Harry Reis & Susan Sprecher (Eds.) *Encyclopedia of human relationships.* (pp. 535-537). Thousand Oaks, CA: SAGE.

Hatfield, E. & Rapson, R. L. (2011). Equity theory in close relationships. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.) *Handbook of theories of social*

*psychology (*pp. 200-217). London: Glyph International.

Hatfield, E., Utne, M. K. & Traupmann, J. (1979). Equity theory and intimate relationships. In R. L. Burgess & T. L. Huston (Eds.), *Social exchange in developing relationships* (pp. 99-133). New York: Academic Press.

Helms, H., Crouter, A., & McHale, S. (2003). Marital quality and spouses' marriage work with close friends and each other. *Journal of Marriage and Family, 65*, 963-977.

Hendrick, S. S. (1988). A Generic Measure of Relationship Satisfaction. *Journal of Marriage and the Family, 50,* 93-98.

Hendrick, C., & Hendrick, S. S. (1997). Love and satisfaction. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 57-78). New York, Guilford Press.

Herzberg, P. Y. (2013). Coping in relationships: The interplay between individual and dyadic coping and their effects on relationship satisfaction. *Anxiety, Stress, & Coping*, *26,* 136-153.

Hinz, A., Stöbel-Richter, Y., & Brähler, E. (2001). Der Partnerschaftsfragebogen (PFB): Normierung und soziodemografische Einflussgrössen auf die Partnerschaftsqualität. *Diagnostica, 47*(3), 132-141.

Iafrate, R., Bertoni, A., Donato, S., & Finkenauer, C. (2012). Perceptual congruence variables, dyadic coping, relationship satisfaction: Comparing two generations of couples. *Personal Relationships, 19*, 401-419.

Iafrate, R., Bertoni, A., Margola, D., Cigoli, V., & Acitelli, L. (2012). The link between perceptual congruence and couple relationship satisfaction in dyadic coping, *European Psychologist, 17*(1), 73-82.

Ingersoll-Dayton, B., & Antonucci, T. (1988). Reciprocal and non-reciprocal social support: Contrasting sides of intimate relationships. *Journal of Gerontology, 43*(3), 65-73.

Johnson, C. L. (1983). Dyadic family relations and social support. *The Gerontologist*, 23, 377-383.

Johnson, D. R., White, L. K., Ewards, J. N., & Booth, A. (1986). Dimensions of marital quality: Toward methodological and conceptualization refinement. *Journal of Family Issues, 7*(1), 31-49.

Jung, J. (1990). The role of reciprocity in social support. *Basic and Applied Social Psychology, 11*(3), 243-253.

Lennon, M. C., & Rosenfield, S. (1994). Relative fairness and the division of housework: The importance of options. *American Journal of Sociology, 100*(2), 506-531.

Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin, 118,* 3-34.

Karney, B. R., Story, L. B., & Bradbury, T. N. (2005). Marriages in context: Interactions between chronic an acute stress among newlyweds. In T. A. Revenson, K. Kayser, & G. Bodenmann (Eds.), *Couples coping with stress: Emerging perspectives on dyadic coping* (pp. 13−32). Washington, D.C.: American Psychological Association.

Kashy, D. A., & Kenny, D. A. (2000). The analysis of data from dyads and groups. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social psychology*. Cambridge University Press.

Kaslow, F., & Robison, J. (1996). Long-term satisfying marriages: Perceptions of contributing factors. *The American Journal of Family Therapy, 24*(2), 153-170.

Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.

Kenny, D. A. (1988). Interpersonal perception: A social relations' analysis. *Journal of Social and Personal Relationships, 5,* 247-261.

Kenny, D. A., & Acitelli, L. K. (2001). Accuracy and bias in perceptions of the partner in close relationships. *Journal of Personality and Social Psychology, 80*(3), 439-448.

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Guilford Press.

Kessler, R. (1991). Perceived support and adjustment to stress: Methodological considerations. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 259-271). New York: Hemisphere.

Kiecolt-Glaser, J. K. & Newton, T. L. (2001). Marriage and health: His and hers. *Psychological Bulletin, 127*(4), 472-503.

Kirchberger, I. (2000). Der SF-36-Fragebogen zum Gesundheitszustand: Anwendung, Auswertung und Interpretation. Im U. Ravens-Sieberer & A. Cieza (Hrsg.), *Lebensqualität und Gesundheitsökonomie in der Medizin* (S. 73-85). Landsberg: Ecomed.

Kronmüller, K.T., Backenstrass, M., Victor. D., Postelnicu, I., Schenkenbach, C., Joest, K., Fiedler, P., & Mundt, Ch. (2011). Quality of marital relationship and depression: Results of a 10-year prospective follow-up study. *Journal of Affective Disorders, 128,* 64-71

Kruse, A. (1992). Lebenskrisen und die Bewältigung gesundheitlicher Belastungen. In: Kaiser, H. (Hrsg.). *Der ältere Mensch – wie er denkt und handelt*. Huber, Bern, S. 89-116.

Kuijer, R. G., Ybema, J. F., Buunk, B. P., Thijs-Boer, F., & Sanderman, R. (2000). Active engagement, protective buffering, and overprotection: Three ways of giving support by intimate partners of patients with cancer. *Journal of Social and Clinical Psychology, 19,* 256–285.

Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal*

relationships (Vol. 5, pp. 205-237). London, England: Kingsley.

Landis, M., Peter-Wight, M., Martin, M., & Bodenmann, G. (2013) Older Spouses' Dyadic Coping and Marital Satisfaction in Long-Term Marriage. *GeroPsych, The Journal of Gerontopsychology and Geriatric Psychiatry,26*(1), 39-47.

Landis, M., Peter-Wight, M., Martin, M.,Bodenmann, G., Nussbeck, F. W., Bradbury, T. N., …Brandstätter, V. (submitted). Long-term couples' commitment, relationship satisfaction, and dyadic coping – A mediation analysis.

Landis, M., Peter-Wight, M., Martin, M.,Bodenmann, G., Nussbeck, F. W., Bradbury, T. N., …Brandstätter, V. (in preparation). Discrepancies in dyadic support perception and their implications on relationship satisfaction: A multigroup analysis

Larson, R. W., & Almeida, D. M. (1999). Emotional transmission in the daily lives of families: A new paradigm for studying family process. *Journal of Marriage and the Family, 61*, 5-20.

Larson, J. H., Hammond, C. H., & Harper, J. M. (1998). Perceived equity and intimacy in marriage. *Journal of Marital and Family Therapy, 24*, 487-506.

Laurent, H. K., Kim, H. K., & Capaldi, D. M. (2009). Longitudinal effects of conflict behaviors on depressive symptoms in young couples. *Journal of Family Psychology, 23*, 596–605.

Lavee, Y. (2013). Stress processes in families and couples. In G. W. Peterson and K. R. Bush (Eds.), *The handbook of marriage and the family*. New York: Springer Publishing Company.

Lazarus, R. S. (2000). Toward better research on stress and coping. *American Psychologist, 55*(6), 665-673.

Lazarus, R. S. (1999). *Stress and Emotion.* New York: Springer Publishing Company.

Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships, 10*, 37–57.

Ledermann, T. & Bodenmann, G. (2006). Moderator- und Mediatoreffekte bei dyadischen Daten. Zwei Erweiterungen des Akteur-Partner-Interdependenz-Modells [Moderator and mediator effects in dyadic research: Two extensions of the actor-partner interdependence model]. *Zeitschrift für Sozialpsychologie, 37*(1), 27-40.

Ledermann, T., Bodenmann, G., & Cina, A. (2007). The efficacy of the couples coping enhancement training (CCET) in improving relationship quality. *Journal of Social and Clinical Psychology, 26*, 940-959.

Ledermann, T., Bodenmann, G., Rudaz, M., & Bradbury, T. N. (2010). Stress, communication, and marital quality in couples. *Family Relations, 59*, 195-206.

Ledermann, T., & Kenny, D. A., (2011). The common fate model for dyadic data: Variations of a theoretically important but underutilized model, *Journal of Family Psychology, 26*(1), 140-148.

Ledermann, T., & Macho, S. (2009). Mediation in dyadic data at the level of the dyads: A structural equation modeling approach. *Journal of Family Psychology, 23*, 661-670.

Lemay, E. P., Jr., Clark, M. S., & Feeney, B. C. (2007). Projection of responsiveness to needs and the construction of satisfying communal relationships. *Journal of Personality and Social Psychology, 92,* 834-853.

Lemieux, R., & Hale, J. L. (1999). Intimacy, passion, and commitment in young romantic relationships: Successfully measuring the triangular theory of love. *Psychological Reports, 85*, 497-503.

Levenson, R., Carstensen, L., & Gottman, J. (1993). Long-term marriage: Age, gender, and satisfaction. *Psychology and Ageing, 8*(2), 301-313.

Lewis, R., & Spanier, G. (1979). Theorizing about the quality and stability of marriage. In W. Burr, R. Hill., F. Nye, & I. Reiss (Eds.), *Contemporary theories about the family*, (Vol.2) (pp. 268-294). NY: The Free Press.

Lindenberger, U., Smith, J., Mayer, K. U., & Baltes, P. B. (Eds.). (2010). *Die Berliner*

Altersstudie (3. erw. Aufl.) (wissenschaftliche Redaktion: J. A. M. Delius). Berlin: Akademie Verlag.

Liu, H. & Umberson, D. (2008). "The times they are a changing": Marital status and health differentials from 1972 to 2003. *Journal of Health and Social Behavior, 49,*239–53.

Martin, M., Grünendahl, M. & Martin, P. (2001). Age differences in stress, social resources and well-being in middle and older age. *Journal of Gerontology: Psychological Sciences, 56,* 214-222.

Martin, M., Jäncke, L., & Röcke, C. (2012). Functional approaches to lifespan development: Toward aging research as the science of stabilization. *GeroPsych, The Journal of Gerontopsychology and Geriatric Psychiatry,25*(4), 185-188.

Meuwly, N., Bodenmann, G., Germann, J., Bradbury, T. M., Ditzen, B., & Heinrichs, M. (2012). Dyadic coping accelerates cortisol stress recovery: Highly anxious women benefit less. *Journal of Family Psychology, 26,* 937-947.

McNulty, J. K., & Karney, B. R. (2001). Attributions in marriage: Integrating specific and global evaluations of a relationship. *Personality and Social Psychology Bulletin, 27,* 943-955.

Neff, L. A. & Karney, B. R. (2007). Stress crossover in newlywed marriage: A longitudinal and dyadic perspective. *Journal of Marriage and Family, 69,* 594-607.

Nesselroade, J. R., & Ram, N. (2004). Studying intraindividual variability: What we have learned that will help us understand lives in context. *Research in Human Development, 1,* 9–29.

Nolen-Hoeksema, S., & Jackson, B. (2001). Mediators of the gender difference in rumination. *Psychology of Women Quarterly, 25,* 37–47.

Noyon, A., & Kock, T. (2006). Living apart together: Couples living apart compared with couples in traditional living arrangements. *Zeitschrift für Familienforschung, 1,* 27-45.

Ogolsky, B. (2009). Deconstructing the association between relationship maintenance

and commitment: Testing two competing models. *Personal Relationships,16,* 99-115.

Papp, L. M., & Witt, N. L. (2010). Romantic partners' individual coping strategies and dyadic coping: Implications for relationship functioning. *Journal of Family Psychology, 24,* 551-559.

Peter-Wight, M. & Martin, M. (2011). When 2 is better than 1 + 1: Older spouses'individual and dyadic problem solving. *European Psychologist, 16*(4), 288-294.

Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of Women Quarterly, 26,* 269-281.

Primomo J., Yates, B. C., & Woods, N. F. (1990). Social support for women during chronic illness: The relationships among sources and types to adjustment. *Research in Nursing & Health, 13,* 153-161.

Rabby, M. K. (2007). Relational maintenance and the influence of commitment in online and offline relationships. *Communication Studies, 58,* 315–337.

Ramirez, A. (2008). An examination of the tripartite approach to commitment: An actor-partner interdependence model analysis of the effect of relational maintenance behavior. *Journal of Social and Personal Relationships, 25(6),* 943-965.

Randall, A. K. & Bodenmann, G. (2009). The role of stress on close relationships and marital satisfaction. *Clinical Psychology Review, 29* (2), 105-115.

Rausch, H. L., Barry, W. A., Hartel, R. K., & Swain, M. A. (1974). *Communication, conflict and marriage*. San Francisco: Jossey-Bass.

Reis, H. T., & Collins, N. (2000). Measuring relationship properties and interactions relevant to social support. In S. Cohen, L. G. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 136–192). New York: Oxford University Press.

Rohrer, J. E., Bernard, M. E., Zhang, Y., Rasmussen, N. H., Woroncow, H. (2008). Marital

status, feeling depressed, and self-rated health in rural female primary care patients. *Journal of Evaluation in Clinical Practice 14*(2), 214-217.

Rook, K., Dooley, D., & Catalano, R. (1991). Stress transmission: The effects of husbands' job stressors on the emotional health of their wives. *Journal of Marriage and the Family, 53,* 165-177.

Røsand, G.-M. B., Slinning, K., Eberhard-Gran, M., Røysamb, E., & Tambs, K. (2012). The buffering effect of relationship satisfaction on emotional distress in couples, *BMC Public Health*, 12: 66

Rossier, J., Rigozzi, C., Charvoz, L. & Bodenmann, G. (2006). Marital satisfaction: Psychometric properties of the PFB and comparison with the DAS. *Swiss Journal of Psychology*, *65*, 55-63.

Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology, 16,* 172-186.

Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 68,* 429-438.

Rusbult, C. E., Arriaga, X. B., & Agnew, C. R. (2001). Interdependence in close relationships. In G. J. O. Fletcher & M. S. Clark (Eds.), *Blackwell handbook of social psychology: Interpersonal processes* (pp. 359-387). Oxford: Blackwell.

Rusbult, C. E., Bissonnette, V. L., Arriaga, X. B., & Cox, C. L. (1998). Accommodation processes during the early years of marriage. In T. N. Bradbury (Ed.), *The developmental course of marital dysfunction* (pp. 74-113). New York: Cambridge.

Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis, *Journal of Social and Personal Relationships, 10,* 175-204.

Rusbult, C. E., Drigotas, S. M., & Verette, J. (1994). The investment model: An inter-dependence analysis of commitment processes and relationship maintenance

phenomena. In D. Canary & L. Stafford (Eds.), *Communication and relational maintenance* (pp. 115-139). New York: Academic Press.

Rusbult, C. E., Johnson, D. J., & Morrow, G. D. (1986). Predicting satisfaction and commitment in adult romantic involvements: An assessment of the generalizability of the investment model. *Social Psychology Quarterly, 49*, 81-89

Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal relationships, 5*(4), 357-391.

Rusbult, C. E., Olsen, N., Davis, J. L., & Hannon, P. (2001). Commitment and relationship maintenance mechanisms. In J. H. Harvey & A. Wenzel (Eds.), *Close romantic relationships: Maintenance and enhancement* (pp. 87-113). Mahwah, NJ: Erlbaum.

Rusbult, C. E., Verette, J., Whitney, G. A., Slovik, L. F., & Lipkus, I. (1991). Accommodation processes in close relationships: Theory and preliminary empirical evidence. *Journal of Personality and Social Psychology, 60*, 53–78.

Rusbult, C. E., & Zembrodt, I. M. (1983). Responses to dissatisfaction in romantic involvements: A multidimensional scaling analysis. *Journal of Experimental Social Psychology, 19,* 274-293.

Sander, J. & Böcker, S. (1993). Die Deutsche Form der Relationship Assessment Scale (RAS): Eine kurze Skala zur Messung der Zufriedenheit in einer Partnerschaft. / The German version of the Relationship Assessment Scale (RAS): A short scale for measuring satisfaction in a dyadic relationship. *Diagnostica, 39*(1), 55-62.

Sarason, I., Levine, H., Basham, R., & Sarason, B. (1993). Assessing social support: The social support questionnaire. *Journal of Personality and Social psychology, 50,* 845-855.

Sarason, B. R., Sarason, I. G., & Pierce, G. R. (1990). Traditional views of social support and their impact on assessment. In B. R. Sarason, & I. G. Sarason (Eds.), *Social support:*

An interactional view (pp. 9–25). Oxford, England: Wiley.

Schmitt, M., Kliegel, M., & Shapiro, A. (2007). Marital interaction in middle and old age: a predictor of marital satisfaction? *International Journal of Ageing and Human Development, 65*(4), 283-300.

Schneewind, K.A. & Wunderer, E. (2003). Prozessmodelle der Partnerschaftsentwicklung. In H.-W. Bierhoff & I. Grau (Hrsg.), *Sozialpsychologie der Partnerschaft* (S. 221-255). Berlin: Springer.

Schumm, W. R., Paff-Bergen, L. A., Hatch, R. C., Obiorah, F. C., Copeland, J. M., Meens, L. D., & Bugaighis, M. A. (1986). Concurrent and discriminant validity of the Kansas Marital Satisfaction scale. *Journal of Marriage and the Family, 48*, 381-387.

Schwarzer, R. & Knoll, N. (2007). Functional roles of social support within the stress and coping process: A theoretical and empirical overview. *International Journal of Psychology, 42* (4), 243-252.

Slotter, E. B., Finkel, E. J., DeWall, C. N., Pond, R. S., Lambert, N. M., Bodenhausen, G. V., & Fincham, F. D. (2012). Putting the brakes on aggression toward a romantic partner: The inhibitory influence of relationship commitment. *Journal of Personality and Social Psychology, 102*, 291-305.

Sobel, Michael E. (1982). Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models. *Sociological Methodology 13*, 290–312.

Spanier, G.B. (1976). Measuring dyadic adjustment: New Scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*, 15-28.

Sprecher, S. (2001). Equity and social exchange in dating couples: Associations with satisfaction, commitment, and stability. *Journal of Marriage and Family, 63,* 599-613.

Sprecher, S. (1988). Investment model, equity, and social support determinants of relationship

commitment, *Journal of Social Psychology Quarterly, 5*(4), 318-328.

Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review, 93*(2), 119-135.

Stoller, E. P. & Earl, L. L. (1983). Help with activities of every day life: Sources of support for the noninstitutionalized elderly. *The Gerontologist, 23,* 64-70.

Stroebe, W., Stroebe, M. S., Abakoumkin, G., & Schut, H. (1996). The role of loneliness and social support in adjustment to loss: A test of attachment versus stress theory. *Journal of Personality and Social Psychology, 70,* 1241-1249.

Terman, L. M. (1938). *Psychological factors in marital happiness.* New York: McGraw-Hill.

Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.

Thoits, P. A. (1986). Social support as coping assistance. *Journal of Consulting and Clinical Psychology, 54*, 416–423.

Thomas, P. A. (2010). Is it better give or to receive? Social support and the well-being of older adults. *Journal of Gerontology: Social Sciences, 65B*(3), 351-357.

Thompson-Hayes, M., & Webb, L. M. (2004). Theory in progress: Commitment under construction: A dyadic and communicative model of marital commitment. *Journal of Family Communication, 4,* 249-260.

Tran, S., & Simpson, J. A. (2009). Pro-relationship maintenance behaviors: The joint roles of attachment and commitment. *Journal of Personality and Social Psychology*, 97, 685-698.

Tucker, J., Friedman, H., Wingard, D., & Schwartz, J. (1996). Marital history at midlife as a predictor of longevity: Alternative explanations to the protective effect of marriage. *Health Psychology, 15,* 94-101.

Uchino, B. N. (2004). *Social support and physical health: Understanding the health consequences of our relationships.* New Haven, CT: Yale University Press.

Uchino, B. N. (2009). Understanding the links between social support and physical health: A

life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science, 4*, 236–255.

Umberson, D., Chen, M. D., House, J. S., Hopkins, K., & Slaten, E. (1996). Gender differences in relationships and psychological well-being. *American Sociological Review, 61,* 837-857.

Väänänen, A., Buunk, B. P., Kivimäki, M., Pentti, J. & Vahtera, J. (2005). When it is better to give than to receive: long-term health effects of perceived reciprocity in support exchange. *Journal of Personality and Social Psychology, 89* (2), 176-193.

Van Lange, P. A. M., Agnew, C. R., Harinck, F., & Steemers, G. E. M. (1997). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology, 73*, 1330–1344.

Van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. B., Witcher, B. S., Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology, 72*, 1373-1395.

VanLaningham, J., Johnson, D., & Amato, P. (2001). Marital happiness, marital duration, and the u-shaped curve: Evidence from a five-wave panel study. *Social Forces, 79(4),* 1313-1341.

Van Yperen, N., & Buunk, B. (1990). A longitudinal study of equity and satisfaction in intimate relationships. *European Journal of Social Psychology,20,* 287–309.

Walker, R. B., & Luszcz, M. A. (2009). The health and relationship dynamics of late-life couples: A systematic review of the literature. *Ageing & Society, 29,* 455-480.

Walster, E, Walster, G. W., & Berscheid, E. (1978). *Equity: Theory and research*. Boston: Allyn Bacon.

Weigel, D. J. & Ballard-Reisch, D. S. (2008). Relational maintenance, satisfaction, and commitment in marriages: An actor-partner analysis. *Journal of Family*

Communication, 9(3), 212-229.

Westman, M., & Vinokur, A. (1998). Unraveling the relationship of distress levels within couples: Common stressors, emphatic reactions, or crossover via social interactions? *Human Relations, 51,* 137-156.

Wethington, E., & Kessler, R. C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior, 27,* 78–89.

Wieselquist, J., Rusbult, C. E., Foster, C. A., & Angew, C. R. (1999). Commitment, pro-relationship behavior, and trust in close relationships. *Journal of Personality and Social Psychology, 77*(5), 942-966.

Williamson, G. M. & Clark, M. S. (1989). The communal/exchange distinction and some implications for understanding justice in families. *Social Justice Research, 3,* 77-103.

Wunderer, E., & Schneewind, K. A. (2008). The relationship between marital standards, dyadic coping and marital satisfaction, *European Journal of Social Psychology*, 38, 462–476.

7 Curriculum Vitae

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Academic education and employment

Since 2013	URPP Dynamics of Healthy Aging: Responsible for survey center and public relations, University of Zurich
2011-2013	Ph.D. student and assistant, Department of Psychology, University of Zurich, Switzerland
2010-2011	Assistant, Department of Psychology, Gerontopsychology, University of Zurich
2004-2009	Studies in Psychology (major), Diploma (Licentiate) in Psychology Psychopathology (minor A) and English Literature (minor B) University of Zurich 2007: 4 months internship, geriatric psychiatry, psychiatric hospital, Königsfelden, Switzerland

Teaching

Spring 2013	Seminar on dyadic interactions and personality development over the lifespan (BSc).